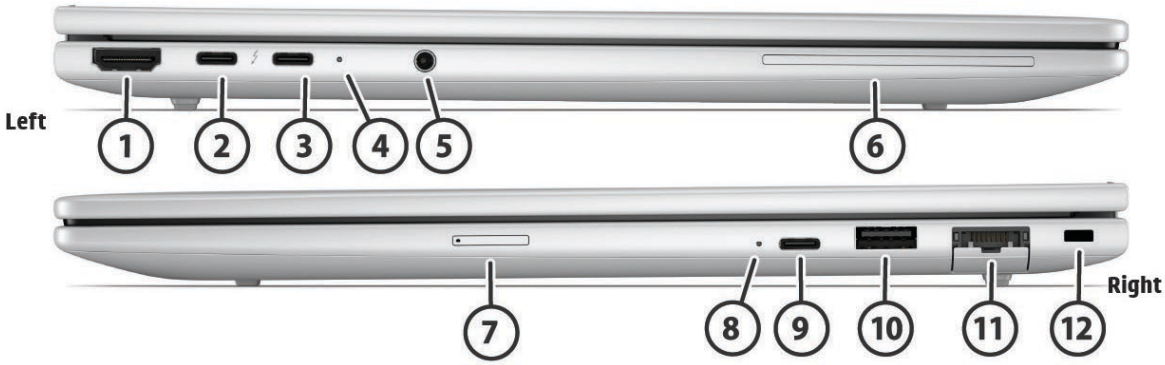
HP EliteBook 8 G2a 14 inch Notebook Next Gen AI PC



Front

1	Internal Microphone (2)	4	Webcam LED
2	Webcam	5	Touchpad
3	Camera Shutter		



Sides

1	HDMI 2.1	7	Nano SIM card slot (optional)
2	Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 2.1) [1]	8	Power Indicator LED
3	Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 2.1) [1]	9	USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4)
4	Power Indicator LED	10	USB Type-A 5Gbps signaling rate (Powered)
5	Headphone/mic combo jack	11	RJ45 Ethernet port (optional)
6	Smart Card Reader (optional)	12	Nano Security slot

1. USB 20Gbps signaling rate is not available with Thunderbolt™ 4. Actual throughput may vary.

PRODUCT NAME

HP EliteBook 8 G2a 14 inch Notebook Next Gen AI PC

OPERATING SYSTEM

Preinstalled

FreeDOS

Windows 11 Home - HP recommends Windows 11 Pro for business [1]

Windows 11 Home Single Language - HP recommends Windows 11 Pro for business [1]

Windows 11 Pro Education [1]

Windows 11 Pro [1]

Windows 11 Pro (Windows 11 Enterprise available with a Volume Licensing Agreement) [1]

Ubuntu 24.04 [2]

1. Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows is automatically updated and enabled. High speed internet and Microsoft account required. ISP fees may apply and additional requirements may apply over time for updates. See http://www.windows.com

2. Ubuntu® and Canonical® are registered trademarks of Canonical Ltd. References to Ubuntu Linux certification relate to certifications offered by Canonical through Canonical Academy. Certification for specific hardware configurations indicates successful completion of Canonical administered exams and does not imply endorsement of any third-party product, service, warranty by HP, organization Canonical beyond the tested configurations.

PROCESSORS

Processor [3,4,5,6]	Cores	Threads	L3 Cache	Max Boost Frequency	Base Frequency	Pro	Integrated Graphic	NPU
AMD Ryzen™ AI 7 PRO processor 450	8 cores	16	16 MB	5.10 GHz	2.00 GHz	X	AMD Radeon™ 860M	50 TOPS
AMD Ryzen™ AI 7 processor 450	8 cores	16	16 MB	5.10 GHz	2.00 GHz		AMD Radeon™ 860M	50 TOPS
AMD Ryzen™ AI 5 PRO processor 440	6 cores	12	16 MB	4.80 GHz	2.00 GHz	X	AMD Radeon™ 840M	50 TOPS
AMD Ryzen™ AI 5 PRO processor 435	6 cores	12	8 MB	4.50 GHz	2.00 GHz	X	AMD Radeon™ 840M	50 TOPS
AMD Ryzen™ AI 5 processor 435	6 cores	12	8 MB	4.50 GHz	2.00 GHz		AMD Radeon™ 840M	50 TOPS

Processor Family

AMD Ryzen™ AI 7 PRO processor

AMD Ryzen™ AI 7 processor

AMD Ryzen™ AI 5 PRO processor

AMD Ryzen™ AI 5 processor

3. Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. AMD numbering, branding, naming are not a measurement of clock speed.

4. AMD Max Boost frequency performance varies depending on hardware, software and overall system configuration.

5. Features and software that require a NPU may require software purchase, subscription or enablement by a software or platform provider, and third party software may have specific configuration or compatibility requirements. Potential NPU inferencing performance varies by use, configuration, and other factors.

6. In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on http://www.support.hp.com

GRAPHICS

Integrated

AMD Radeon® Graphics

Supported Protocols

Support DirectX®12, HDCP 2.3, HDMI 2.1 (up to 4K 60Hz)

Display supported (including internal display; dock may be required) up to 4

Codec

Hardware Acceleration HEVC (H.265) CODEC is supported

DISPLAY

Availability may vary by country.

Actual brightness will be lower with touchscreen or HP Sure View.

Non-Touch

35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, Low Blue Light, 800 nits, sRGB 100%, Sure View 6 [7]

35.6 cm (14") diagonal, 2.5K (2560 x 1600), LCD, 120Hz (VRR), UWVA, , Anti-Glare, WLED+Low Blue Light, 400 nits, Adobe 100% + DCI-P3 100%

35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED+Low Blue Light, 400 nits, Low Power, sRGB 100%

35.6 cm (14") diagonal, WUXGA (1920 x 1200), OLED, UWVA, Anti-Glare, OLED+Low Blue Light, 300 nits, DCI-P3 100%

35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED, 300 nits, Low Power, sRGB 62.5%

Touch

35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Touch on Panel, Anti-Glare, Low Blue Light, 800 nits, sRGB 100%, Sure View 6 [7]

35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, Direct Bonding Touch Screen, UWVA, BrightView, Gorilla Glass 7, Low Blue Light, 800 nits, sRGB 100%

35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, Touch on Panel, UWVA, Anti-Glare, WLED, 300 nits, Low Power, sRGB 62.5%

Display Size (Diagonal)

35.6 cm (14")

Aspect Ratio

16:10

Screen to Body Ratio

Up to 89.70%

Max Hinge Open Angle

169° ± 3°

7. HP Sure View integrated privacy screen is an optional feature that must be configured at purchase and is designed to function in landscape orientation.

DOCKING (SOLD SEPARATELY)

Docking station model name

HP Thunderbolt™ 100W G6 Dock

Total number of supported displays (incl.the notebook) display)

4

Max. resolutions supported

(4) 4K @60Hz*

(2) 4K @ 120Hz*

(3) QHD @ 120Hz*

(1) QHD @ 360Hz*

Dock Connectors

1 x HDMI 2.1, 2 x DisplayPort 1.4, 1 x Thunderbolt 4

Technical limitations

*Requires DisplayPort 1.4 support with Display Stream Compression (DSC).

Bluetooth required for HP Quick Connect. HP Quick Connect available on select HP notebooks.

Maximum resolution and display support is dependent on the maximum capability of the notebook.

Thunderbolt Hosts:

Maximum of (4) displays with maximum resolution of 5K@ 30Hz running Thunderbolt host.

Maximum resolution possible is dual 8K displays @ 60Hz running Thunderbolt host or running a non-Thunderbolt host in high resolution mode @30Hz

Non-Thunderbolt hosts:

The highest resolution for dual displays running a non-Thunderbolt host in multi-function mode is

(1) 5K dual cable (using both DP ports) +(1) 4K on USB-C DP port

Non-Thunderbolt hosts support (3) displays with a maximum resolution of (2) 5K single cable + (1) 4K UHD @ 60 Hz in high resolution mode. In multi-function mode the maximum resolution for (3) displays is (2) 5K single cable @ 30Hz + (1) 4K UHD @ 30Hz.

Docking station model name

HP USB-C™ 100W G6 Dock

Total number of supported displays (incl.the notebook) display)

4

Max. resolutions supported

(1) 4K @120hz*

(2) 4K @120hz*

(3) 4K @60hz*

Dock Connectors

1 x HDMI 2.1, 2 x DisplayPort 1.4

Technical limitations

*Requires DisplayPort 1.4 support with Display Stream Compression (DSC).

Bluetooth required for HP Quick Connect. HP Quick Connect available on select HP notebooks.

Maximum resolution and display support is dependent on the maximum capability of the notebook.

Highest resolution with dual displays is two 8K@ 60Hz host in High Resolution mode.

Three maximum displays supported are two 5K@ 30 Hz on DP ports plus one 4K UHD@ 30 Hz on HDMI in Multi-function mode

The highest resolution for a non-Thunderbolt host in Multi-function mode is a single 5K dual cable (using both DP ports) + (1) 4K on HDMI port.

Docking station model name

HP Thunderbolt™ 180W G6 Dock

Total number of supported displays (incl.the notebook) display)

4

Max. resolutions supported

(4) 4K @60Hz*

(2) 4K @ 120Hz*

(3) QHD @ 120Hz*

(1) QHD @ 360Hz*

Dock Connectors

1 x HDMI 2.1, 2 x DisplayPort 1.4, 1 x Thunderbolt 4, 1 x USB-C 3.2 Gen 2 DisplayPort

Technical limitations

*Requires DisplayPort 1.4 support with Display Stream Compression (DSC).

Up to 180W of power delivery via Thunderbolt 4 cable to notebooks that support PD 3.1.

Bluetooth required for HP Quick Connect. HP Quick Connect available on select HP notebooks.

Maximum resolution and display support is dependent on the maximum capability of the notebook.

Thunderbolt Hosts:

Maximum of (4) displays with maximum resolution of 5K@ 30Hz running Thunderbolt host.

Maximum resolution possible is (2) 8K @ 60Hz running TBT host or running a non-TBT host in high resolution mode @30Hz

Docking station model name

HP Thunderbolt™ 280W G6 Dock

Total number of supported displays (incl.the notebook)

display)

4

Max. resolutions supported

(4) 4K @60Hz*

(2) 4K @ 120Hz*

(3) QHD @ 120Hz*

(1) QHD @ 360Hz*

Dock Connectors

1 x HDMI 2.1, 2 x DisplayPort 1.4, 1 x Thunderbolt 4, 1 x USB-C 3.2 Gen 2 DisplayPort

Technical limitations

*Requires DisplayPort 1.4 support with Display Stream Compression (DSC).

Up to 180W of power delivery via Thunderbolt 4 cable to notebooks that support PD 3.1.

Bluetooth required for HP Quick Connect. HP Quick Connect available on select HP notebooks.

Maximum resolution and display support is dependent on the maximum capability of the notebook.

Thunderbolt Hosts:

Maximum of (4) displays with maximum resolution of 5K@ 30Hz running Thunderbolt host.

Maximum resolution possible is (2) 8K @ 60Hz running TBT host or running a non-TBT host in high resolution mode @30Hz

STORAGE AND DRIVES

All SSDs on this system run at Gen4 speed.

Storage

2 TB PCIe® Gen5 NVMe™ SSD Value [8]

1 TB PCIe® Gen5x4 NVMe™ Performance Self Encrypted OPAL2 SSD [8]

1 TB PCIe® Gen5 NVMe™ SSD Value [8]

1 TB PCIe® NVMe™ SSD Value [8]

512 GB PCIe® Gen5 NVMe™ Self Encrypted OPAL2 SSD Value [8]

512 GB PCIe® Gen5 NVMe™ SSD Value [8]

512 GB PCIe® NVMe™ SSD Value [8]

256 GB PCIe® NVMe™ Self Encrypted OPAL2 SSD Value [8]

256 GB PCIe® NVMe™ SSD Value [8]

8. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 32 GB is reserved for system recovery software.

MEMORY

Only one memory type option can be selected in a single unit.

HP branded SODIMM memory is recommended to ensure compatibility. If two SODIMM memory modules with different speeds are installed, the system will perform at the lower memory speed.

Option	Option 1	Option 2
Memory slots	Two SODIMM slot	Onboard memory, no memory slots
Memory type	DDR5	LPDDR5x
Maximum supported memory	64GB DDR5-5600 MT/s	64GB LPDDR5X-8533 MT/s
Available memory configurations	16GB (1 x 16 GB) DDR5-5600 MT/s 16GB (2 x 8 GB) DDR5-5600 MT/s 24GB (1 x 24 GB) DDR5-5600 MT/s 32GB (1 x 32 GB) DDR5-5600 MT/s 32GB (2 x 16 GB) DDR5-5600 MT/s 48GB (2 x 24 GB) DDR5-5600 MT/s 64GB (2 x 32 GB) DDR5-5600 MT/s	16GB LPDDR5X-8533 MT/s 32GB LPDDR5X-8533 MT/s 64GB LPDDR5X-8533 MT/s
Notes	System runs at 5600 MT/s. Memory is replaceable by customer or customer IT support. Supports Dual Channel Memory	System runs at 7500 MT/s. The memory is non-accessible / non-upgradeable. Supports Dual Channel Memory

NETWORKING /COMMUNICATIONS

Items below may be optional.

Ethernet

Realtek RTL8111EPP 1GbE Ethernet Controller

WLAN

Mediatek MT7925 Wi-Fi 7 Bluetooth® 6.0 AIM-T WW WLAN[9]

Mediatek RZ616 Wi-Fi 6E Bluetooth® 5.3 AIM-T WLAN[10,11]

WWAN

MediaTek T700 5G NR WWAN[12]

MediaTek T700 5G NR with HP Go WWAN[12]

LPWAN

HP RW220-GL LTE (Low Power) (CAT-1bis)[13]

NFC

NFC Mirage WNC XRAV-1

Miracast

Native Miracast Support[14]

9. Wi-Fi 7 requires a Wi-Fi 7 router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 7 is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 7 is supported. Wi-Fi 7 is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels.

10. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. Available in countries where Wi-Fi 6E is supported.

11. Wi-Fi 6E is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels.

12. 5G module is optional. WWAN-ready configuration must be selected at purchase to add WWAN module at a later date (WWAN After Market Option Kit). Module designed for 5G NR SA(standalone) and 5G NR NSA (non-standalone) Public and Private networks

including Evolved-Universal Terrestrial Radio Access New Radio Dual Connectivity (ENDC) with both 100Mhz of 5G NR and LTE channel bandwidth, using 256QAM 4x4 as defined by 3GPP. Module includes embedded eSIM. Module requires activation and separately purchased service contract. Check with service provider for coverage and availability in your area. Data connection, upload and download speeds will vary due to network, location, environment, network conditions, and other factors. Backwards compatible to 4G LTE and 3G HSPA technologies. 5G module planned to be available in select platforms and select countries, where carrier and frequency bands supported.

13. LPWAN (also called Mobile Narrowband) supports HP Protect & Trace with Wolf Connect service through the subscription term, but does not support mobile broadband use.

14. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming.

AUDIO/MULTIMEDIA

Audio

Audio by Poly Studio

2 Integrated stereo speakers

Discrete Amplifiers

2 Integrated dual array microphone

Enhanced by AI noise reduction.

Speaker Power

1W / 8 ohm per speaker

Camera

5MP HDR camera

5MP HDR camera with Image Signal Processing (ISP) and AI Presence Detection, IR camera

Sensors

Ambient Light Sensor [15]

Color Sensor with Ambient Light Sensing (optional) [16]

Fingerprint Sensor(optional)

Hall Effect Sensor

HP Sure Platform

HP Tamper Lock

Thermal Sensor

15. Ambient light sensor included with Sure View display configurations.

16. Color sensor with Ambient Light Sensing included with OLED displays and LCD displays higher than 300 nits.

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard

HP Premium Keyboard, spill-resistant, Privacy, Backlit, Durakey keyboard

HP Premium Keyboard, spill-resistant, Backlit, Durakey keyboard

HP Premium Keyboard, spill-resistant, Durakey keyboard

Pointing Device

Clickpad

Microsoft Precision Touchpad Default Gestures Support

Multi-touch gesture support

Function Keys [17]

ESC - System information

F1 - Display Switching

F2 - Blank or Privacy

F3 - Brightness Down

F4 - Brightness Up

F5 - Blank or Keyboard Backlight

F6 - Audio Mute

F7 - Volume Down

F8 - Volume Up

F9 - Mic Mute

F10 - Media

F11 - Programmable Key (HP app)

F12 - HOME

Power Button (with LED)

Insert

Delete

End

Page up

Page down

Microsoft Copilot

Hidden Function Keys

Fn+R - Break, Fn+S - Sys Rq, Fn+C - Scroll Lock, Fn+Copilot - Context Menu

17. Copilot+ in Windows requires Windows 11. Some features require an NPU. Timing of feature delivery and availability varies by market and device. Requires Microsoft account to log in. Where Microsoft in Windows is not available, the Copilot key will lead to the Bing search engine. See aka.ms/copilotpluspcs

SOFTWARE AND SECURITY

Application Software

Buy Microsoft Office (Sold Separately) [18]

Edge Customization

HP Connection Optimizer

HP Hotkey Support

HP IQ [19]

HP Notifications

HP PC Hardware Diagnostics UEFI

HP PC Hardware Diagnostics Windows

HP Privacy Settings

HP Services Scan [20]

HP Support Assistant [21]

HSA Fusion for Commercial

HSA Telemetry for Commercial

HP app [22]

Poly Studio Desktop [23]

Manageability Features

HP Client Catalog (download) [24]

HP Client Management Script Library (download) [25]

HP Cloud Recovery [26]

HP Connect for Microsoft Endpoint Manager [27]

HP Driver Packs (download) [28]

HP Image Assistant (download) [29]

HP Manageability Integration Kit (download) [30]

HP Patch Assistant (download) [31]

HP Power Manager with Battery Health Manager (download) [32]

Security Features

Secured-Core PC Enable [33]

Windows Hello Enhanced Sign-In Security (ESS)

HP Wolf Security for Business which includes: [34]

HP Sure Admin [35]

HP Sure Click [36]

HP Sure Recover [37]

HP Sure Run [38]

HP Sure Sense [39]

HP Sure Start [40]

HP Tamper Lock [41]

Security- TPM

Model

Model: Nuvoton NPCT760HAEYX

Firmware Version

Firmware Version: 7.2.4.1

TCG

TCG TPM 2.0

FIPS 140-3 Compliant

FIPS 140-3 Compliant: Yes

Model

Model: STMicro ST33KTPM2X32DKG9

Firmware Version

Firmware Version: 9.257

TCG

TCG TPM 2.0

FIPS 140-3Compliant

FIPS 140-3Compliant: Yes

BIOS

Absolute Persistence Module [42]

HP BIOS Recovery

BIOS Update via Network

HP BIOSphere [43]

HP DriveLock & Automatic DriveLock

HP Secure Erase [44]

Smartcard Reader

Model number

Alcorlink IC, CR, AK9563E66-GAF-GR, QFN28

FIPS 201-3 Compliant

FIPS 201-3 Compliant: Yes

IPv6 Support

Yes

FirstNet Certified

Yes

Does the BIOS implement the ISO/IEC 19678:2015 (formerly NIST 800-147) guidelines?

Yes

UEFI version

2.9

Class

3

18. Microsoft 365 sold separately and requires Internet access for activation.
19. HP IQ delivery app is preloaded on select HP PCs; it will be automatically updated to the future featured HP IQ application if you have auto updates enabled in Windows or will be available for download from the Microsoft Store. The future featured HP IQ app uses artificial intelligence. Features vary by configuration. For complete details see https://support.hp.com/us-en/document/ish_13696672-13696717-16
20. HP Services Scan automatically collects the telemetry necessary upon initial boot of the product to deliver device-level configuration data and health insights and is available preinstalled on select products, thru HP Factory Configuration Services; or it can be downloaded. For more information about how to enable HP Smart Support or for download, please visit http://www.hp.com/smart-support.
21. HP Support Assistant is available on Windows. For more information, please visit http://www.support.hp.com/help/hp-support-assistant
22. HP app requires Windows 10 or higher OS
23. Poly Studio Desktop requires a Windows OS.
24. HP Client Catalog not preinstalled, however available for download at (https://www.hp.com/us-en/solutions/client-management-solutions.html).
25. HP Client Management Script Library (https://www.hp.com/us-en/solutions/client-management-solutions.html#tab=manageability-tools).
26. HP Cloud Recovery is available for Z by HP, HP Elite and Pro desktops and laptops PCs with Intel® or AMD processors and requires an open, network connection. Note: You must back up important files, data, photos, videos, etc. before use to avoid loss of data. Detail, please refer to: https://support.hp.com/us-en/document/c05115630.
27. HP Connect for Microsoft Endpoint Manager is available from the Azure Market Place for HP Pro, Elite, Z and Point-of-Sale PCs managed with Microsoft Endpoint Manager. Subscription to Microsoft Endpoint Manager required and sold separately. Network connection required.
28. HP Driver Packs not preinstalled, however available for download at http://www.hp.com/go/clientmanagement.
29. HP Image Assistant not preinstalled, however available for download at (https://ftp.ext.hp.com/pub/caps-softpaq/cmit/HPIA.html)
30. HP Manageability Integration Kit can be downloaded from http://www.hp.com/go/clientmanagement.
31. HP Patch Assistant available on select HP PCs with the HP Manageability Kit that are managed through Microsoft System Center Configuration Manager. HP Manageability Integration Kit can be downloaded from http://www8.hp.com/us/en/ads/clientmanagement/overview.html.
32. HP Power Manager with Battery Health can be downloaded by entering your system information here: https://support.hp.com/in-

en/document/ish_4449597-3519507-16.

33. Secured-Core PC Enable requires an Intel® vPro®, AMD Ryzen™ Pro processor or Qualcomm® processor with SD850 or higher and requires 8 GB or more system memory. Secured-core PC is enabled from the factory.

34. HP Wolf Security for Business requires Windows 10 or 11 (Pro or Home) or higher, includes various HP security features and is available on HP X, Ultra, Pro, Elite, Engage and Workstation products. See product details for included security features.

35. HP Sure Admin requires HP G8 or newer platforms, Windows 10 or higher, HP BIOS, HP Manageability Kit or KMS Service from http://www.hp.com/go/clientmanagement and HP Sure Admin Local Access Authenticator

36. HP Sure Click requires Windows 10 Pro or higher or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.

37. HP Sure Recover is available on select HP PCs and requires Windows 10 or 11 and an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data. HP Sure Recover Gen6 with Embedded Reimaging is an optional feature on select HP PCs which requires Windows 10 or 11 must be configured at purchase. You must back up important files, data, photos, videos, etc. before use to avoid loss of data.

38. HP Sure Run is available on select HP PCs and requires Windows 10 and higher.

39. HP Sure Sense is available on select HP PCs with Windows 10 Pro, Windows 10 Enterprise, Windows 11 Pro, or Windows 11 Enterprise OS.

40. HP Sure Start is available on select HP PCs and requires Windows 10 and higher

41. HP Tamper Lock can be Enabled/disabled by customers or IT administrator with administrator authority.

42. Absolute Persistence firmware module is shipped turned off and can only be activated with the purchase a license subscription and full activation of the software agent. License subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. Certain conditions apply. For full details visit: https://www.absolute.com/about/legal/agreements/absolute/.

43. HP BIOSphere features may vary depending on the platform and configuration.

44. HP Secure Erase implements the methods outlined in the National Institute of Standards and Technology Special.

POWER

Power supply availability may vary by country.

Battery is internal and replaceable by customer.

Higher wattage adapter is recommended for best performance and fastest charging.

Using lower-capacity third-party USB Type-C® power cables may reduce power delivery.

Power Supply

HP 100W Wall Mount USB Type-C® GaN Halogen Free AC power adapter

HP 65W Wall Mount USB Type-C® GaN Halogen Free AC power adapter

HP 65W Standard USB Type-C® GaN AC power adapter

Battery

HP Long Life 3 cell, 68Wh Polymer

HP Long Life 3 cell, 62Wh Polymer

Compliant with UL 1642/2054 Standard

Battery Recharge Time

Supports battery HP Fast Charge: approximately 50% in 30 minutes [45]

Power Cord

3-wired plug- 1.0m for standard type adapter

USB Type-C® Power Cable- 2.0m for wall mount adapter

Battery life

MM30: Up to 20 hours 45 minutes with 68Whr battery (AMD Ryzen™ AI 7 PRO 450, UMA graphic, brightness set to 250nits on a 14-inch WUXGA 200nits OLED display, 32GB LPDDR5X memory, 256GB SSD) [46]

Teams 3x3: Up to 12 hours 15 minutes with 68Whr battery (AMD Ryzen™ AI 7 PRO 450, UMA graphic, brightness set to 150nits on a 14-inch WUXGA 300nits OLED display, 32GB LPDDR5X memory, 256GB SSD) [47]

Web Browsing: Up to 19 hours 30 minutes with 68Whr battery (AMD Ryzen™ AI 7 PRO 450, UMA graphic, brightness set to 150nits on a 14-inch WUXGA 300nits OLED display, 32GB LPDDR5X memory, 256GB SSD) [48]

45. Recharges your battery up to 50% within 30 minutes when the system is off or in standby mode. Power adapter minimum of 65 watts required for battery capacities 56Whr or less. Power adapter minimum of 100 watts required for battery capacities greater

than 56Whr and less than 83Whr. Power adapter minimum of 120 watts required for battery capacities greater than 83Whr and less than 100Whr. After charging has reached 50% capacity, charging will return to normal. Charging time may vary +/-10% due to System tolerance.

46. Test configuration: MobileMark 30 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See http://www.bapco.com for additional details.

47. Test configuration: HP factory image, balanced power mode with Windows Studio Effects on. Teams 3x3 conferencing battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage.

48. Test configuration: HP factory image. Microsoft web browsing battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage (CER Test Methodology).

WEIGHT & DIMENSIONS

Weight will vary by configuration. Does not include power adapter.

Front height measurement is near the front edge where the mechanical chassis taper begins. Back height measurement is near the rear edge where the mechanical chassis taper ends.

Product Weight

Starting at 1.449 kg (3.19 lb) with 62.00 Wh battery

Product Dimensions (w x d x h) [49]

Width: 315.6 mm (12.43 in)

Depth: 222.0 mm (8.74 in)

Height Front: 11.75 mm (0.46 in)

Height Rear: 15.50 mm (0.61 in)

Maximum Height: 18.95 mm (0.75 in)

Pallet Dimensions (w x d x h)

Product packaging size varies based on options chosen. Please contact your HP representative for your packaging size details. For detailed packaging information, access the HP Commercial Notebooks Packaging Guide.

49. Typical dimension. Actual dimension may vary +/- 0.5mm. Height may vary based on configuration. Maximum Height does not include Rubber feet.

PORTS/SLOTS

Left side

2 x Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 2.1) [50]

1 x HDMI 2.1 (support up to 4k60Hz)

1 x headphone/mic combo jack

1 x Smart Card Reader (optional)

Right side

1 x USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4)

1 x USB Type-A 5Gbps signaling rate (Powered)

1 x RJ45 Ethernet port (optional)

1 x Nano SIM card slot (optional)

1 x Nano Security Slot

50. USB 20Gbps signaling rate is not available with Thunderbolt™ 4. Actual throughput may vary.

ENVIRONMENTAL DATA

<table>
<tr><td rowspan="3">Environmental Data</td><td>Eco-Label Certifications & Declarations</td><td>This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:
IT ECO declaration
US ENERGY STAR®
US Federal Energy Management Program (FEMP)
EPEAT® Gold registered in the United States. See http://www.epeat.net for registration status in your country.
TCO Certified
China Energy Conservation Program (CECP)
China State Environmental Protection Administration (SEPA)
Taiwan Green Mark
Korea Eco-label
Japan PC Green label*</td></tr>
<tr><td>Sustainable Impact Specifications</td><td>Product Carbon Footprint
At least 30% ocean bound plastic in the Speaker enclosure[1]
At least 25% post-consumer recycled plastic[2]
At least 65% recycled metal[3]
External Power Supply 90% Efficiency
Low Halogen[4]
100% of HP paper-based packaging is from recycled or certified sustainable sources[5]
Bulk packaging available</td></tr>
<tr><td>System Configuration

Energy Consumption (in accordance with US ENERGY STAR® test method)</td><td>The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a “Typically Configured Notebook”.<table><tr><th></th><th>115VAC, 60Hz</th><th>230VAC, 50Hz</th><th>100VAC, 50Hz</th></tr><tr><td>Normal Operation (Sort idle)</td><td>4.26 W</td><td>4.16 W</td><td>4.20 W</td></tr><tr><td>Normal Operation (Long idle)</td><td>1.39 W</td><td>1.15 W</td><td>1.21 W</td></tr><tr><td>Sleep</td><td>1.39 W</td><td>1.15 W</td><td>1.21 W</td></tr><tr><td>Off</td><td>0.48 W</td><td>0.45 W</td><td>0.49 W</td></tr></table></td></tr>
</table>

		Note: Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.		
	Heat Dissipation*	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
	Normal Operation (Short idle)	15 BTU/hr	14 BTU/hr	14 BTU/hr
	Normal Operation (Long idle)	5 BTU/hr	4 BTU/hr	4 BTU/hr
	Sleep	5 BTU/hr	4 BTU/hr	4 BTU/hr
	Off	2 BTU/hr	2 BTU/hr	2 BTU/hr
		*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.		
	Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	**Sound Power (L_{WAd}, bels)**	**Sound Pressure (L_{pAm}, decibels)**	
	Typically Configured – Idle	2.6	14.6	
	Fixed Disk – Random writes	4.7	39.1	
	Active mode – Sequential reads	4.8	39.2	
	Longevity and Upgrading	This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the Spare parts are available throughout the warranty period and or for up to "5" years after the end of production.		

	Additional Information	• This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC. • This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC. • This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986). • This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see http://www.epeat.net • Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043. • This product is 94.4% recycle-able when properly disposed of at end of life.		
	Packaging Materials	**External:**	PAPER/Corrugated	273 g
			PAPER/Molded Pulp	110 g
			PAPER/Paper	25 g
		The plastic packaging material contains at least 0% recycled content.		
		The corrugated paper packaging materials contains at least 50% recycled content.		
	RoHS Compliance	HP Inc. complies fully with materials regulations. We were among the first companies to extend the restrictions in the European Union (EU) Restriction of Hazardous Substances (RoHS) Directive to our products worldwide through the HP GSE. HP has contributed to the development of related legislation in Europe, as well as China, India, and Vietnam. We believe the RoHS directive and similar laws play an important role in promoting industry-wide elimination of substances of concern. We have supported the inclusion of additional substances—including PVC, BFRs, and certain phthalates—in future RoHS legislation that pertains to electrical and electronics products. We met our voluntary objective to achieve worldwide compliance with the new EU RoHS requirements for virtually all relevant products by July 2013, and we will continue to extend the scope of the commitment to include further restricted substances as regulations continue to evolve. To obtain a copy of the HP RoHS Compliance Statement, see HP RoHS position statement.		

	Material Usage	This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c05998906): • Asbestos • Certain Azo Colorants • Certain Brominated Flame Retardants – may not be used as flame retardants in plastics • Cadmium • Chlorinated Hydrocarbons • Chlorinated Paraffins • Bis(2-Ethylhexyl) phthalate (DEHP) • Benzyl butyl phthalate (BBP) • Dibutyl phthalate (DBP) • Diisobutyl phthalate (DIBP) • Formaldehyde • Halogenated Diphenyl Methanes • Lead carbonates and sulfates • Lead and Lead compounds • Mercuric Oxide Batteries • Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user. • Ozone Depleting Substances • Polybrominated Biphenyls (PBBs) • Polybrominated Biphenyl Ethers (PBBEs) • Polybrominated Biphenyl Oxides (PBBOs) • Polychlorinated Biphenyl (PCB) • Polychlorinated Terphenyls (PCT) • Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications. • Radioactive Substances • Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

	Packaging Usage	HP follows these guidelines to decrease the environmental impact of product packaging: • Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials. • Eliminate the use of ozone-depleting substances (ODS) in packaging materials. • Design packaging materials for ease of disassembly. • Maximize the use of post-consumer recycled content materials in packaging materials. • Use readily recyclable packaging materials such as paper and corrugated materials. • Reduce size and weight of packages to improve transportation fuel efficiency. • Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.
	End-of-life Management and Recycling	HP offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: https://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c05403198 or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: HP Product Disassembly Instruction Website. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

	HP, Inc. Corporate Environmental Information	For more information about HP's commitment to the environment:
		• Sustainable Impact Report
		  ○ https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c06040843
		• Eco-label certifications
		  ○ https://www.hp.com/us-en/sustainable-impact/document-reports.html#filters_documents_reports-=document_type-type_energy_star,type_epeat,type_tcoISO
		• ISO 14001 certificates
		  ○ https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c04777932

	Footnotes	1. Percentage of ocean-bound plastic contained in each component varies by product. Ocean Bound plastic is expressed as a percentage of the total weight plastic. Ocean Bound plastic is based on the definition set by the UL2809 standard. 2. Recycled plastic is expressed as a percentage of the total weight plastic. Post-consumer recycled is based on the definition set in the EPEAT standard for computers, IEEE 1680.1-2018 standard. 3. Recycled metal is expressed as a percentage of the total weight of the metal according to ISO 14021 definitions for metal parts over 25 grams. 4. External power supplies, WWAN modules, power cords, cables and peripherals excluded. Service parts obtained after purchase may not be Low Halogen. 5. HP paper and fiber-based packaging for PCs, displays, home and office print, and supplies is reported by suppliers as recycled or certified, with a minimum of 97% by volume verified by HP. Packaging is the box that comes with the product and all paper-based materials inside the box. Packaging for personal systems accessories and spare parts is not included. Plastic cushions are made from >90% recycled plastic.

SERVICE AND SUPPORT

1-year warranty and 90 day software limited warranty options depending on country. HP Worldwide Limited Warranty for the battery is aligned with the warranty period of the HP Hardware Product. Refer to http://www.hp.com/support/batterywarranty/ for additional battery information. On-site service and extended coverage is also available. HP Care Pack Services are optional extended service contracts that go beyond the standard limited warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: http://www.hp.com/go/cpc [51]

51. HP Care Packs are sold separately. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit http://www.hp.com/go/cpc . HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

SYSTEM UNIT

Stand - Alone Power Requirements (AC Power)	
Nominal Operating Voltage	20.0 V
Max Operating Power	UMA < 100 W
Temperature	
Operating	0° to 35° C (32° to 95° F) System performance may be reduced above 32°C (89.6°F)
Non - operating	-20° to 60° C (-4° to 140° F) System performance may be reduced above 32°C (89.6°F)
Relative Humidity	
Operating	10% to 90% (non-condensing)
Non - operating	5% to 95%, 38.7° C (101.6° F) maximum wet bulb temperature
Shock	
Operating	40 G, 2 ms, half-sine
Non - operating	240 G, 2 ms, half-sine
Random Vibration	
Operating	1.043 grms
Non - operating	3.500 grms
Altitude (unpressurized)	
Operating	3,048 m (10,000 ft)
Non - operating	12,192 m (40,000 ft)
Industry Standard Certifications	
Regulatory Model Number	HSN-I63C-4
CSA/UL 62368-1	Yes
ENERGY STAR®[1]	Yes
FCC/ICES/CISPR/VCCI	Yes
CE MARKING	Yes
GS Mark	Yes. Related commodity should comply with ISO 9241 Standards.
China CCC/SRRC/CEL	Yes
Taiwan BSMI/NCC	Yes
Korea KCC/KC/KES	Yes

Ukraine NSoC/TEC	Yes
EAEU Compliance	Yes
Saudi Arabian Compliance	Yes
TCO	Yes
EPEAT Gold [2]	Yes
Low Blue Light	Yes
WW RoHS	Yes
CECP	No This is related to government bids, and the review is usually handled by HP China closer to the RTP. They will confirm whether the application is required at that time.
Medical EMC: IEC 60601-1-2:2014 EN60601-1-2: 2015	Yes
SEPA	No This is related to government bids, and the review is usually handled by HP China closer to the RTP. They will confirm whether the application is required at that time.
MIL - STD Testing [3]	MIL-STD 810H

1. Configurations that are ENERGY STAR® qualified are identified as ENERGY STAR on HP websites and on http://www.energystar.gov

2.. Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit http://www.epeat.net for more information.

3. MIL STD testing is not intended to demonstrate fitness for U.S. Department of Defense contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Accidental damage requires an optional HP Accidental Damage Protection Care Pack.

DISPLAYS

Actual brightness will be lower with touchscreen or HP Sure View.

Availability may vary by country

35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, Low Blue Light, 800 nits, sRGB 100%, Sure View 6 [1]	**Active Area**	301.590 x 188.500 mm (typ)
	Dimensions (W x H)	306.890 x 197.900 mm (max)
	Weight	230 g (max)
	Diagonal Size	14 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1500:1 (typ)
	Refresh Rate	60Hz
	Brightness	800 nits (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920x1200 (WUXGA)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	sRGB 100%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	Yes
	Power Consumption	EBL@150nits:1.50 W (Max)

35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Touch on Panel, Anti-Glare, Low Blue Light, 800 nits, sRGB 100%, Sure View 6 [1]	**Active Area**	301.590 x 188.500 mm (typ)
	Dimensions (W x H)	306.890 x 197.900 mm (max)
	Weight	260 g (max)
	Diagonal Size	14 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	Yes
	Contrast Ratio	1500:1 (typ)
	Refresh Rate	60Hz
	Brightness	800 nits (typ)
	Pixel Resolution	RGB

	Pixel Resolution - Format	1920x1200 (WUXGA)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	sRGB 100%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	Yes
	Power Consumption	EBL@150nits:1.90 W (Max)
35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, Direct Bonding Touch Screen, UWVA, BrightView, Gorilla Glass 7, Low Blue Light, 800 nits, sRGB 100%, Sure View 6	**Active Area**	301.590 x 188.500 mm (typ)
	Dimensions (W x H)	309.600 x 210.500 mm (max)
	Weight	290 g (max)
	Diagonal Size	14 inch
	Surface Treatment	BrightView
	Touch Enabled	Yes
	Contrast Ratio	1500:1 (typ)
	Refresh Rate	60/40 Hz
	Brightness	800 nits (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920x1200 (WUXGA)
	Aspect Ratio	16:10
	Backlight	Low Blue Light
	Color Gamut Coverage	sRGB 100%
	Color Depth	6+2 FRC
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	Yes
	Power Consumption	150nits/OPR20% (MSFT CER Video) : Total 1.5W 150nits/OPR30% (MSFT CER Browsing) : Total 1.9W
35.6 cm (14") diagonal, 2.5K (2560 x 1600), LCD, 120Hz (VRR), UWVA, Anti-Glare, WLED+Low Blue Light, 400	**Active Area**	301.590 x 188.500 mm (typ)
	Dimensions (W x H)	307.590 x 199.550 mm (max)
	Weight	300 g (max)
	Diagonal Size	14 inch

nits, Adobe 100% + DCI-P3 100%	**Surface Treatment**	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1200:1 (typ)
	Refresh Rate	60 Hz
	Brightness	400 nits (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920x1200 (WUXGA)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	sRGB 100%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	Yes
	Power Consumption	EBL@200nits:1.40 W (Max) EBL@250nits:1.60 W (Max)
35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED+Low Blue Light, 400 nits, Low Power, sRGB 100%	**Active Area**	301.594 x 188.496 mm (typ)
	Dimensions (W x H)	306.890 x 197.900 mm (max)
	Weight	300 g (max)
	Diagonal Size	14 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	2000:1 (typ)
	Refresh Rate	120 Hz
	Brightness	400 nits (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	2560x1600 (2.5K)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	Adobe RGB 100% + DCI-P3 100%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	Yes

	Power Consumption	2.3 (max)/ 2.7 (max)
35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED, 300 nits, Low Power, sRGB 62.5%	**Active Area**	301.590 x 188.500 mm (typ)
	Dimensions (W x H)	307.590 x 199.150 (max)
	Weight	300 g (max)
	Diagonal Size	14 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1000 : 1 (typ)
	Refresh Rate	60 Hz
	Brightness	300 nits (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920x1200 (WUXGA)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	sRGB 62.5%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	No
	Power Consumption	1.70 (max)/2.10(max)
35.6 cm (14") diagonal, WUXGA (1920 x 1200), OLED, UWVA, Anti-Glare, OLED+Low Blue Light, 300 nits, DCI-P3 100%	**Active Area**	301.824 x 188.640 mm (typ)
	Dimensions (W x H)	305.654 x 198.020 mm (max)
	Weight	174 g (max)
	Diagonal Size	14 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1000000:1 (typ)
	Refresh Rate	60 Hz
	Brightness	300 nits (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920x1200 (WUXGA)
	Aspect Ratio	16:10

	Backlight	OLED
	Color Gamut Coverage	DCI-P3 100%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	Yes
	Power Consumption	EBL@200nits:2.70 W (Max)
35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, Touch on Panel, UWVA, Anti-Glare, WLED, 300 nits, Low Power, sRGB 62.5%	**Active Area**	301.590 x 188.500 (typ)
	Dimensions (W x H)	30.7.59 x 199.15 (max)
	Weight	300 g (max)
	Diagonal Size	14 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	Yes
	Contrast Ratio	1000:1(typ)
	Refresh Rate	60 Hz
	Brightness	300 nits (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920x1200 (WUXGA)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	sRGB 62.5%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	No
	Power Consumption	1.75 (max) / 2.15 (max)

50. HP Sure View integrated privacy screen is an optional feature that must be configured at purchase and is designed to function in landscape orientation.

STORAGE

All SSDs on this system run at Gen4 speed.

2 TB PCIe® Gen5 NVMe™ SSD Value [1]	**Form Factor**	M.2 2280
	Capacity	2 TB
	NAND Type	Value
	Weight	10g
	Interface	PCIe Gen5 NVMe
	Sequential Read	7000 MB/s ±20% (in PCIe Gen4x4 slot)
	Sequential Write	6800 MB/s ±20% (in PCIe Gen4x4 slot)
	Logical Blocks	4000797360
	Features	Pyrite 2.0; TRIM; L1.2 Not all features are available in all versions
1 TB PCIe® Gen5x4 NVMe™ Performance Self Encrypted OPAL2 SSD [1]	**Form Factor**	M.2 2280
	Capacity	1 TB
	NAND Type	Performance
	Weight	10 g
	Interface	PCIe Gen5x4 NVMe
	Sequential Read	7000 MB/s ±20% (in PCIe Gen4x4 slot)
	Sequential Write	7000 MB/s ±20% (in PCIe Gen4x4 slot)
	Logical Blocks	2000409264
	Features	TCG Opal 2.0; TRIM; L1.2 Not all features are available in all versions
1 TB PCIe® Gen5 NVMe™ SSD Value [1]	**Form Factor**	M.2 2280
	Capacity	1 TB
	NAND Type	Value
	Weight	10 g
	Interface	PCIe Gen5 NVMe
	Sequential Read	7000 MB/s ±20% (in PCIe Gen4x4 slot)
	Sequential Write	6600 MB/s ±20% (in PCIe Gen4x4 slot)
	Logical Blocks	2000409264

	Features	Pyrite 2.0; TRIM; L1.2 Not all features are available in all versions
1 TB PCIe® NVMe™ SSD Value [1]	**Form Factor**	M.2 2280
	Capacity	1TB
	NAND Type	Value
	Weight	10 g
	Interface	PCIe NVMe
	Sequential Read	3500 MB/s ±20%
	Sequential Write	2700 MB/s ±20%
	Logical Blocks	2000409264
	Features	Pyrite 2.0; TRIM; L1.2 Not all features are available in all versions
512 GB PCIe® Gen5 NVMe™ Self Encrypted OPAL2 SSD Value [1]	**Form Factor**	M.2 2280
	Capacity	512 GB
	NAND Type	Value
	Weight	10 g
	Interface	PCIe Gen5 NVMe
	Sequential Read	7000 MB/s ±20% (in PCIe Gen4x4 slot)
	Sequential Write	6000 MB/s ±20% (in PCIe Gen4x4 slot)
	Logical Blocks	1000215216
	Features	TCG Opal 2.0; TRIM; L1.2 Not all features are available in all versions
512 GB PCIe® Gen5 NVMe™ SSD Value [1]	**Form Factor**	M.2 2280
	Capacity	512 GB
	NAND Type	Value
	Weight	10g
	Interface	PCIe Gen5 NVMe
	Sequential Read	7000 MB/s ±20% (in PCIe Gen4x4 slot)
	Sequential Write	6000 MB/s ±20% (in PCIe Gen4x4 slot)
	Logical Blocks	1000215216

	Features	Pyrite 2.0; TRIM; L1.2 Not all features are available in all versions
512 GB PCIe® NVMe™ SSD Value [1]	**Form Factor**	M.2 2280
	Capacity	512GB
	NAND Type	Value
	Weight	10g
	Interface	PCIe NVMe
	Sequential Read	3500 MB/s ±20%
	Sequential Write	1600 MB/s ±20%
	Logical Blocks	1000215216
	Features	Pyrite 2.0; TRIM; L1.2 Not all features are available in all versions
256 GB PCIe® NVMe™ Self Encrypted OPAL2 SSD Value [1]	**Form Factor**	M.2 2280
	Capacity	256 GB
	NAND Type	Value
	Weight	10g
	Interface	PCIe NVMe
	Sequential Read	3100 MB/s ±20%
	Sequential Write	1200 MB/s ±20%
	Logical Blocks	500118192
	Features	TCG Opal 2.0; TRIM; L1.2 Not all features are available in all versions
256 GB PCIe® NVMe™ SSD Value [1]	**Form Factor**	M.2 2280
	Capacity	256GB
	NAND Type	Value
	Weight	10 g
	Interface	PCIe NVMe
	Sequential Read	3100 MB/s ±20%
	Sequential Write	1200 MB/s ±20%
	Logical Blocks	500118192

Features	Pyrite 2.0; TRIM; L1.2 Not all features are available in all versions

1. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 32 GB is reserved for system recovery software.

NETWORKING / COMMUNICATION

Mediatek MT7925 Wi-Fi 7 Bluetooth® 6.0 AIM-T WW WLAN [1]	**Wireless LAN Standards**	IEEE 802.11a
		IEEE 802.11b
		IEEE 802.11g
		IEEE 802.11n
		IEEE 802.11ac
		IEEE 802.11ax
		IEEE 802.11be
		IEEE 802.11d
		IEEE 802.11e
		IEEE 802.11h
		IEEE 802.11i
		IEEE 802.11k
		IEEE 802.11r
		IEEE 802.11v
		IEEE 802.11w
	Interoperability	Wi-Fi certified
	Frequency Band	802.11b/g/n/ax/be
		2.402 - 2.482 GHz
		802.11a/n/ac/ax/be
		4.9 - 4.95 GHz (Japan)
		5.15 - 5.25 GHz
		5.25 - 5.35 GHz
		5.47 - 5.725 GHz
		5.825 - 5.850 GHz
		5.955 - 6.415 GHz
		6.435 - 6.515 GHz
		6.535 - 6.875 GHz
		6.895 - 7.115 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps
		802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
		802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
		802.11n: max 300Mbps

	802.11ac : 1733Mbps
	802.11ax : max 2.4Gbps
	802.11be : max 2.8Gbps (160MHz)
Modulation	Direct Sequence Spread Spectrum
	OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM, 4096QAM
Security	IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only
	AES-CCMP: 128 bit in hardware
	802.1x authentication
	WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.
	WPA2 certification
	WPA3 certification
	IEEE 802.11i
	WAPI
Network Architecture	Ad-hoc (Peer to Peer)
Models	Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power	802.11b, 1Mbps : +17dBm minimum
	802.11g, 6Mpbs : +16dBm minimum
	802.11a, 6Mbps : +17dBm minimum
	802.11n, MCS7(HT20) : +14dBm minimum
	802.11n, MCS7(HT40) : +13.5dBm minimu
	802.11ac MCS9(VHT20) : 13.5dBm minimum
	802.11ac MCS9(VHT40) : +13.5dBm minimum
	802.11ac MCS9(VHT80) : +12.5dBm minimum
	802.11ac MCS9(VHT160) : +10.5dBm minimum
	802.11ax MCS11(HE20)(6GHz) : +11.5dBm minimum
	802.11ax MCS11(HE40)(6GHz) : +7.5dBm minimum
	802.11ax MCS11(HE80)(6GHz) : +7.5dBm minimum
	802.11ax MCS11(HE160)(6GHz) : +7.5dBm minimum
	802.11be MCS13(EHT20)(6GHz) : +11.5dBm
	802.11be MCS13(EHT40)(6GHz) : +7.5dBm

	802.11be MCS13(EHT80)(6GHz) : +7.5dBm
	802.11be MCS13(EHT160)(6GHz) : +6.5dBm
Power Consumption	Transmit mode 2.7 W
	Receive mode 1.8 W
	Idle mode (PSP) 180 mW (WLAN Associated)
	Idle mode 50 mW (WLAN unassociated)
	Connected Standby 10mW
	Radio disabled 8 mW
Power Management	ACPI and PCI Express compliant power management
	802.11 compliant power saving mode
Receiver Sensitivity	802.11b, 1Mbps : -93.5dBm maximum
	802.11b, 11Mbps : -85dBm maximum
	802.11a/g, 6Mbps : -90.5dBm maximum
	802.11a/g, 54Mbps : -72.5dBm maximum
	802.11n, MCS0(HT20) : -90dBm maximum
	802.11n, MCS7(HT20) : -71.5dBm maximum
	802.11n, MCS0(HT40) : -88.5dBm maximum
	802.11n, MCS7(HT40) : -68.5dBm maximum
	802.11ac, MCS9(VHT20) : -88.5dBm maximum
	802.11ac, MCS9(VHT40) : -65.5dBm maximum
	802.11ac, MCS9(VHT80) : -60.5dBm maximum
	802.11ac, MCS9(VHT160) : -58.5dBm maximum
	802.11ax, MCS11(HE20)(6GHz) : -59.5dBm maximum
	802.11ax, MCS11(HE40)(6GHz) : -56.5dBm maximum
	802.11ax, MCS11(HE80)(6GHz) : -53.5dBm maximum
	802.11ax, MCS11(HE160)(6GHz) : -51.5dBm maximum
	802.11be, MCS13(EHT20)(6GHz) : -55.5dBm maximum
	802.11be, MCS13(EHT40)(6GHz) : -53.5dBm maximum
	802.11be, MCS13(EHT80)(6GHz) : -51.5dBm maximum
	802.11be, MCS13(EHT160)(6GHz) : -48.5dBm maximum
Antenna Type	High efficiency antenna with spatial diversity, mounted in the display enclosure

	Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications
Form Factor	PCI-Express M.2 MiniCard
Dimensions	Type 2230 : 2.3 x 22.0 x 30.0 mm
Weight	Type 2230 : 2.8g
Operating Voltage	3.3v +/- 9%
	Integrated Bluetooth® specifications
Bluetooth® Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4/6.0 Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps Bluetooth® Low Energy : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class I Bluetooth device with a maximum transmit power of +15.5 dBm for BR and +13dBm for EDR.
Power Consumption	Peak (Tx): 330 mW Peak (Rx): 230 mW Selective Suspend: 17 mW
Bluetooth® Software Supported Link Topology	1. Microsoft Windows Bluetooth Software 2. Linux/Chrome OS Bluetooth Software.
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode

Certifications	FCC (47 CFR) Part 15C, Section 15.247 & 15.249
	ETS 300 328, ETS 300 826
	Low Voltage Directive IEC950
	UL, CSA, and CE Mark
Bluetooth® Profiles	BT4.1-ESR 5/6/7 Compliance
Supported	LE Link Layer Ping
	LE Dual Mode
	LE Link Layer
	LE Low Duty Cycle Directed Advertising
	LE L2CAP Connection Oriented Channels
	Train Nudging & Interlaced Scan
	BT4.2 ESR08 Compliance
	LE Secure Connection- Basic/Full
	LE Privacy 1.2 –Link Layer Privacy
	LE Privacy 1.2 –Extended Scanner Filter Policies
	LE Data Packet Length Extension
	FAX Profile (FAX)
	Basic Imaging Profile (BIP)2
	Headset Profile (HSP)
	Hands Free Profile (HFP)
	Advanced Audio Distribution Profile (A2DP)
	BT5.2
	ESR9/10 Compliance
	LE Advertisement Extensions
	Channel Selection Algo
	Limited High Duty Cycle Non-Connectable Advertising
	2Mbps LE
	LE Long Range
	BT5.3
	Host to Controller Encryption Key Control Enahancements
	Compliance to the latest Errata Sectipn 12.3 of BT 5.3 specification

		BT5.4
		BT6.0
Mediatek RZ616 Wi-Fi 6E Bluetooth® 5.3 AIM-T WLAN [2,3]	**Wireless LAN Standards**	IEEE 802.11a
		IEEE 802.11b
		IEEE 802.11g
		IEEE 802.11n
		IEEE 802.11ac
		IEEE 802.11ax
		IEEE 802.11d
		IEEE 802.11e
		IEEE 802.11h
		IEEE 802.11i
		IEEE 802.11j
		IEEE 802.11k
		IEEE 802.11mc
		IEEE 802.11r
		IEEE 802.11v
		IEEE 802.11w
	Interoperability	Wi-Fi certified
	Frequency Band	802.11b/g/n/ax
		2.402 - 2.482 GHz
		802.11a/n/ac/ax
		5.15 - 5.25 GHz
		5.25 - 5.35 GHz
		5.47 - 5.725 GHz
		5.825 - 5.850 GHz
		5.925 - 7.125 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps
		802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
		802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
		802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)

	802.11ac : MCS0 ~ MCS9, (20MHz, 40MHz, ,80MHz & 160MHz) 802.11ax : MCS0 ~ MCS11, (20MHz, 40MHz, ,80MHz & 160MHz)
Modulation	Direct Sequence Spread Spectrum OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
Security	IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only AES-CCMP: 128 bit in hardware 802.1x authentication WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. WPA2 certification WPA3 (personal) certification IEEE 802.11i WAPI
Network Architecture	Ad-hoc (Peer to Peer)
Models	Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power	2.4GHz (MIMO, typical): 802.11b : +18dBm 802.11g : +16.5dBm 802.11n/ac/ax (HT20/VHT20/HE20) : +16dBm 802.11n/ac/ax (HT40/VHT40/HE40) : +12.5dBm 5GHz (MIMO, typical): 802.11a : +13dBm 802.11n/ac/ax (HT20/VHT20/HE20) : +13.5dBm 802.11n/ac/ax (HT40/VHT40/HE40) : +12.5dBm 802.11ac/ax (VHT80/HE80) : +11.5dBm 802.11ax HE160 : +11.5dBm 6GHz LPI mode (MIMO, typical):: 802.11a : 0dBm

	802.11ax HE20 : +1dBm
	802.11ax HE40 : +4dBm
	802.11ax HE80 : +7dBm
	802.11ax HE160 : +7.5dBm
Power Consumption	Transmit mode :2.5 W
	Receive mode :2 W
	Idle mode (PSP) 180 mW (WLAN Associated)
	Idle mode :50 mW (WLAN unassociated)
	Connected Standby/Modern Standby: 10mW
	Radio disabled: 8 mW
Power Management	ACPI and PCI Express compliant power management
	802.11 compliant power saving mode
Receiver Sensitivity [4]	2.4GHz (SISO):
	802.11b, 11Mbps : -82dBm maximum
	802.11g, 54Mbps : -71dBm maximum
	802.11n, MCS7 : -64dBm maximum
	802.11ac, MCS9 : -52dBm maximum
	802.11ax, MCS11(HT40): -49dBm maximum
	5GHz (SISO):
	802.11a, 54Mbps : -71dBm maximum
	802.11n, MCS07 : -64dBm maximum
	802.11ac, MCS9 : -52dBm maximum
	802.11ax, MCS11(HE80/HE160): -46dBm maximum
	6GHz (SISO):
	802.11a, 54Mbps : -71dBm maximum
	802.11n, MCS7 : -64dBm maximum
	802.11ac, MCS9 : -52dBm maximum
	802.11ax, MCS11(HE160): -46dBm maximum
Antenna Type	High efficiency antenna with spatial diversity, mounted in the display enclosure
	Two embedded dual band 2.4/5/6 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications

Form Factor	PCI-Express M.2 MiniCard
Dimensions	1. Type 2230 : 2.3 x 22.0 x 30.0 mm
Weight	1. Type 2230 : 2.8g
Operating Voltage	3.3v +/- 9%
	Integrated Bluetooth® specifications
Bluetooth® Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3 Compliant
Frequency Band	2402 to 2480 MHz
Number of Available	Legacy : 0~79 (1 MHz/CH)
Channels	BLE : 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps
	BLE : 1 Mbps data rate; throughput up to 0.2 Mbps
	Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels
	Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class 1.5 Bluetooth device with a maximum transmit power of + 14 dBm and 10 dBm for BR and EDR, respectively.
Power Consumption	Peak (Tx): 330 mW
	Peak (Rx): 230 mW
	Selective Suspend: 17 mW
Bluetooth® Software	Microsoft Windows Bluetooth Software
Supported Link Topology	
Power Management	Microsoft Windows ACPI, and USB Bus Support
Certifications	FCC (47 CFR) Part 15C, Section 15.247 & 15.407
	ETS 300 328
	Low Voltage Directive
	CE Mark
Bluetooth® Profiles	BT4.1-ESR 5/6/7 Compliance
Supported	LE Link Layer Ping
	LE Dual Mode
	LE Link Layer

		LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan BT4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 –Link Layer Privacy LE Privacy 1.2 –Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP) BT5.2 ESR9/10 Compliance LE Advertisement Extensions Channel Selection Algo Limited High Duty Cycle Non-Connectable Advertising 2Mbps LE LE Long Range Windows BT profiles support BT5.3 Periodic Advertisement interval Encryption key size control enhancements
MediaTek T700 5G NR WWAN [5]	**Technology Operating Bands**	WCDMA/HSPA+ operating bands: Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL) Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL) Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL) Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL) Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL) LTE FDD/TDD operating bands: Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)

Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
Band 3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)
Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)
Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
Band 7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)
Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
Band 12: 699 to 716 MHz (UL), 729 to 746 MHz (DL)
Band 13: 777 to 787 MHz (UL), 746 to 756 MHz (DL)
Band 14: 788 to 798 MHz (UL), 758 to 768 MHz (DL)
Band 17: 704 to 716 MHz (UL), 734 to 746 MHz (DL)
Band 18: 815 to 830 MHz (UL), 860 to 875 MHz (DL)
Band 19: 830 to 845 MHz (UL), 875 to 890 MHz (DL)
Band 20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)
Band 25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL)
Band 26: 814 to 849 MHz (UL), 859 to 894 MHz (DL)
Band 28: 703 to 748 MHz (UL), 758 to 803 MHz (DL)
Band 29: 717 to 728 MHz (DL)
Band 30: 2305 to 2315 MHz (UL) 2350 to 2360 MHz (DL)
Band 32: 1452 to 1496 MHz (DL)
Band 34: 2010 to 2025 MHz (UL/DL)
Band 38: 2570 to 2620 MHz (UL/DL)
Band 39: 1880 to 1920 MHz (UL/DL)
Band 40: 2300 to 2400 MHz (UL/DL)
Band 41: 2496 to 2690 MHz (UL/DL)
Band 42: 3400 to 3600 MHZ (UL/DL)
Band 43: 3400 to 3800 MHZ (UL/DL)
Band 46: 5150 to 5925 MHZ (DL)
Band 48: 3550 to 3700 MHZ (UL/DL)
Band 66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL)
Band 71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)
5GNR Sub 6GHZ
n1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
n2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)

	n3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)
	n5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
	n7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)
	n8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
	n12: 699 to 716 MHz (UL), 729 to 746 MHz (DL)
	n14: 788 to 798 MHz (UL), 758 to 768 MHz (DL)
	n20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)
	n25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL)
	n26: 814 to 849 MHz (UL), 859 to 894 MHz (DL)
	n28: 703 to 748 MHz (UL), 758 to 803 MHz (DL)
	n30: 2305 to 2315 MHz (UL) 2350 to 2360 MHz (DL)
	n38: 2570 to 2620 MHz (UL/DL)
	n40: 2300 to 2400 MHz (UL/DL)
	n41: 2496 to 2690 MHz (UL/DL)
	n48: 3550 to 3700 MHZ (UL/DL)
	n66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL)
	n71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)
	n77: 3300 to 4200 MHz (UL/DL)
	n78: 3300 to 3800 MHz (UL/DL)
	n79: 4400 to 5000 MHz (UL/DL)
Wireless Protocol Standards	NR Sub6G rel15
	200MHz 2 DLCA, 256 QAM
	200MHz 2 ULCA, 256 QAM
	15KHz/30KHz SCS for FDD/TDD
	LTE Rel15
	100MHz 5 DLCA, 256 QAM
	40MHz 2 ULCA, 256 QAM
	UMTS Rel8
GPS	GPS only support L1 C/A
GPS Bands	GPS: L1 (1575.42MHz)
	GLONASS: L1 (1602MHz)
	BeidouB1(1561.098MHz)

		Galileo E1 (1575.42)
		QZSS(1575.42 MHz)
	Maximum Data Rates	Sub-6 SA Peak
		DL 4.67Gbps/UL 1.25Gbps
		Sub-6 NSA Peak
		DL 3.74Gbps/UL 835Mbps
		LTE Peak
		DL 1.6Gbps (CAT19)/UL 211Mbps (CAT18)
		UMTS/HSPA+
		DL DC-HSPA+: 42 Mbps (CAT24)/UL 11.5 Mbps (CAT7)
	Maximum Output Power	NR：
		23 dBm in all band except (n30 = 22dBm & n48=21dBm & n77=25dBm & n41/n77/n78 = 26dBm)
		LTE:
		23 dBm in all band except (B30 = 22dBm & B48=21dBm & B41=26dBm)
		UMTS:
		23.5 dBm
	Maximum Power Consumption	3500 mA (peak); 1674mA (average)
	Form Factor	M.2, 3052-S3 Key B
	Weight	8.7g
	Dimensions (Length x Width x Thickness)	52 mm × 30 mm × 2.3 mm
	Embedded eSIM	Support
MediaTek T700 5G NR with HP Go WWAN [5]	**Technology Operating Bands**	WCDMA/HSPA+ operating bands:
		Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
		Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
		Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)
		Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
		Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
		LTE FDD/TDD operating bands:

Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
Band 3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)
Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)
Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
Band 7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)
Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
Band 12: 699 to 716 MHz (UL), 729 to 746 MHz (DL)
Band 13: 777 to 787 MHz (UL), 746 to 756 MHz (DL)
Band 14: 788 to 798 MHz (UL), 758 to 768 MHz (DL)
Band 17: 704 to 716 MHz (UL), 734 to 746 MHz (DL)
Band 18: 815 to 830 MHz (UL), 860 to 875 MHz (DL)
Band 19: 830 to 845 MHz (UL), 875 to 890 MHz (DL)
Band 20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)
Band 25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL)
Band 26: 814 to 849 MHz (UL), 859 to 894 MHz (DL)
Band 28: 703 to 748 MHz (UL), 758 to 803 MHz (DL)
Band 29: 717 to 728 MHz (DL)
Band 30: 2305 to 2315 MHz (UL) 2350 to 2360 MHz (DL)
Band 32: 1452 to 1496 MHz (DL)
Band 34: 2010 to 2025 MHz (UL/DL)
Band 38: 2570 to 2620 MHz (UL/DL)
Band 39: 1880 to 1920 MHz (UL/DL)
Band 40: 2300 to 2400 MHz (UL/DL)
Band 41: 2496 to 2690 MHz (UL/DL)
Band 42: 3400 to 3600 MHZ (UL/DL)
Band 43: 3400 to 3800 MHZ (UL/DL)
Band 46: 5150 to 5925 MHZ (DL)
Band 48: 3550 to 3700 MHZ (UL/DL)
Band 66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL)
Band 71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)
5GNR Sub 6GHZ
n1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)

	n2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
	n3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)
	n5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
	n7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)
	n8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
	n12: 699 to 716 MHz (UL), 729 to 746 MHz (DL)
	n14: 788 to 798 MHz (UL), 758 to 768 MHz (DL)
	n20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)
	n25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL)
	n26: 814 to 849 MHz (UL), 859 to 894 MHz (DL)
	n28: 703 to 748 MHz (UL), 758 to 803 MHz (DL)
	n30: 2305 to 2315 MHz (UL) 2350 to 2360 MHz (DL)
	n38: 2570 to 2620 MHz (UL/DL)
	n40: 2300 to 2400 MHz (UL/DL)
	n41: 2496 to 2690 MHz (UL/DL)
	n48: 3550 to 3700 MHZ (UL/DL)
	n66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL)
	n71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)
	n77: 3300 to 4200 MHz (UL/DL)
	n78: 3300 to 3800 MHz (UL/DL)
	n79: 4400 to 5000 MHz (UL/DL)
Wireless Protocol Standards	NR Sub6G rel15
	200MHz 2 DLCA, 256 QAM
	200MHz 2 ULCA, 256 QAM
	15KHz/30KHz SCS for FDD/TDD
	LTE Rel15
	100MHz 5 DLCA, 256 QAM
	40MHz 2 ULCA, 256 QAM
	UMTS Rel8
GPS	GPS only support L1 C/A
GPS Bands	GPS: L1 (1575.42MHz)
	GLONASS: L1 (1602MHz)
	BeidouB1 (1561.098MHz)

		Galileo E1 (1575.42)
		QZSS (1575.42 MHz)
	Maximum Data Rates	Sub-6 SA Peak
		DL 4.67Gbps/UL 1.25Gbps
		Sub-6 NSA Peak
		DL 3.74Gbps/UL 835Mbps
		LTE Peak
		DL 1.6Gbps (CAT19)/UL 211Mbps (CAT18)
		UMTS/HSPA+
		DL DC-HSPA+: 42 Mbps (CAT24)/UL 11.5 Mbps (CAT7)
	Maximum Output Power	NR :
		23 dBm in all band except (n30 = 22dBm & n48=21dBm & n77=25dBm & n41/n77/n78 = 26dBm)
		LTE:
		23 dBm in all band except (B30 = 22dBm & B48=21dBm & B41=26dBm)
		UMTS:
		23.5 dBm
	Maximum Power Consumption	3500 mA (peak); 1674mA (average)
	Form Factor	M.2, 3052-S3 Key B
	Weight	8.7g
	Dimensions (Length x Width x Thickness)	52 mm × 30 mm × 2.3 mm
	Embedded eSIM	Support
NFC Mirage WNC XRAV-1	**Dimensions (L x W x H)**	17.00 x 10.00 x 2.00 mm (0.67 x 0.39 x 0.08 inch)
	Chipset	NPC300
	System Interface	I2C
	NFC RF Standards	ISO/IEC 14443 A
		ISO/IEC 14443 B
		ISO/IEC 15693
		ISO/IEC 18092

	ECMA-340 NFCIP-1 Target and Initiator
	ECMA-320 NFCIP-2
NFC Forum Support	Type 1,
	Type 2,
	Type 3 / Type 4,
	NFCIP-1 / NFCIP-2
Reader Mode (PCD-VCD)	ISO/IEC 14443 A
	ISO/IEC 14443 B
	ISO/IEC 15693
	MIFARE 1K
	MIFARE 4K
	MIFARE DESFire
	FeliCa
	Jewel and Topaz
Card Emulation Mode (PICC-VICC)	ISO/IEC 14443 A
	ISO/IEC 14443 B and B'
	MIFARE
	FeliCa
Frequency	13.56 MHz
NFC Modes Supported	Reader/Writer,
	Peer-to-Peer
Raw RF Data Rates	106 kbps,
	212 kbps,
	424 kbps,
	848 kbps
Operating Temperature	0°C to 70°C (32°F to 158°F)
Storage Temperature	-20°C to 125°C (-4°F to 257°F)
Humidity	Operating: 10 - 90%
	Non-Operating: 5 - 95%
Supply Operating Voltage	4.35 to 5.25 Volts
I/O Voltage	1.8V or 3.3V
Power Consumption Mode	Booster enable, VBAT= 3.3V, VCC_BOOST = 5V Power Consumption, Typical

	Polling	7.3 mA
	Detected Test Tag Type 1	Total 283.8 mA
		Net Module 236.8 mA
	Detected Test Tag Type 2	Total 288.8 mA
		Net Module 241.8 mA
	Detected Test Tag Type 3	Total 287.7 mA
		Net Module 240.7 mA
	Detected Test Tag Type 4	Total 282.3 mA
		Net Module 235.3 mA
	Antenna	Antenna connector, 0.5mm pitch, 7 connector FPC. Antenna matching is external to module.
Realtek RTL8111EPP 1GbE Ethernet Controller	**Connector**	RJ-45
	System Interface	PCI™ (Intel proprietary) + SMBus + USB2
	Data Rates Supported	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)
		100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30)
		1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 802.3 clauses 40)
		Auto-Negotiation (Automatic Speed Selection)
		Full Duplex Operation at all Speeds
		Half Duplex operation at 10 & 100 Mbit/s
	IEEE Compliance	IEEE 802.1p QoS (Quality of Service) Support
		IEEE 802.1q VLAN support
		IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)
		IEEE 802.3az EEE (Energy Efficient Ethernet)
		IEEE802.3 compatible Media Access Controller (MAC)
	Performance	TCP/IP/UDP Checksum Offload (configurable)
		Protocol Offload (ARP & NS)
		Large send v1&v2 offload and Giant send offload

		Jumbo Frame 9K
		Receiving Side Scaling
	Power Consumption	Cable Disconnection: 25 mW
		100Mbps Full Run: 450 mW
		1000Mbps Full Run: 1000 mW
		WoL Enable(S3/S4/S5): 50 mW
		WoL Disable(S3/S4/S5): 25 mW
	Power Management	ACPI compliant – multiple power modes
		Situation-sensitive features reduce power consumption
		Advanced link down power saving for reducing link down power consumption
	Management Interface	Auto MDI/MDIX Crossover cable detection
	IT Manageability	Wake-on-LAN from modern standby or sleep state (Magic Packet and Microsoft Wake-Up Frame)
		Wake-on-LAN from off (Magic Packet only)
		PXE 2.1 Remote Boot
		Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30))
	Security & Manageability	Support DASH 1.1 compliant/Software KVM ASF 2.0
HP RW220-GL LTE (Low Power) (CAT-1bis) [6]	**Technology/Operating bands**	FDD LTE: 2100 (Band 1), 1800 (Band 3), 850 (Band 5), 900 (Band 8), 700 (Band 12), 850 (Band 18), 850 (Band 19), 800 (Band 20), 850 (Band 26), 700 (Band 28)
		WIFI Scan : 802.11b
	Wireless protocol standards	3GPP TS 51.010-1 V12.9.0: Mobile Station (MS) conformance specification; Part 1: Conformance specification
		3GPP TS 36.521-1 V13.3.0: User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Conformance testing
		3GPP TS 21.111 V10.0.0: USIM and IC card requirements
		3GPP TS 51.011 V4.15.0: Specification of the Subscriber Identity Module -Mobile Equipment (SIM-ME)

	interface 3GPP TS 31.102 V10.11.0: Characteristics of the Universal Subscriber Identity Module (USIM) application 3GPP TS 31.111 V10.16.0: Universal Subscriber Identity Module (USIM) Application Toolkit (USAT) 3GPP TS 36.124 V13.2.0: Electro Magnetic Compatibility (EMC) requirements for mobile terminals and ancillary equipment 3GPP TS 27.007 V10.0.8: AT command set for User Equipment (UE) 3GPP TS 27.005 V10.0.1: Use of Data Terminal Equipment - Data Circuit terminating Equipment (DTE DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)
GPS	GPS, Galileo, BeiDou, QZSS, AGPS-MS-B
GPS bands	GPS L1:1575.42Mhz±1.023Mhz, BDS B1:1561.098Mhz±2.046Mhz Galileo E1:1575.42Mhz±1.023Mhz QZSS L1:1575.42Mhz±1.023Mhz
Maximum data rates	Downlink: 10Mbps Uplink: 5Mbps
Maximum output power	B1/3: 23 +/-2dBm B5/8/12/18/19/20/26/28: 24 +1.7/-2dBm
Maximum power consumption	290.945 mA(peak), 8.035 mA(average)
Form Factor	M.2
Weight	3.9 g (0.138 oz)
Dimensions (Length x Width x Thickness)	42.00 x 22.00 x 2.30 mm (1.65 x 0.87 x 0.09 inch)
embedded eSIM	Support

1. Wi-Fi 7 requires a Wi-Fi 7 router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 7 is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 7 is supported. Wi-Fi 7 is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels.
2. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. Available in countries where Wi-Fi 6E is supported.
3. Wi-Fi 6E is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels.
4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
5. 5G module is optional. WWAN-ready configuration must be selected at purchase to add WWAN module at a later date (WWAN After Market Option Kit). Module designed for 5G NR SA(standalone) and 5G NR NSA (non-standalone) Public and Private networks including Evolved-Universal Terrestrial Radio Access New Radio Dual Connectivity (ENDC) with both 100Mhz of 5G NR and LTE channel bandwidth, using 256QAM 4x4 as defined by 3GPP. Module includes embedded eSIM. Module requires activation and separately purchased service contract. Check with service provider for coverage and availability in your area. Data connection, upload and download speeds will vary due to network, location, environment, network conditions, and other factors. Backwards compatible to 4G LTE and 3G HSPA technologies. 5G module planned to be available in select platforms and select countries, where carrier and frequency bands supported.
6. LPWAN (also called Mobile Narrowband) supports HP Protect & Trace with Wolf Connect service through the subscription term, but does not support mobile broadband use.

POWER

Power supply availability may vary by country.

Battery is internal and replaceable by customer.

Higher wattage adapter is recommended for best performance and fastest charging.

Using lower-capacity third-party USB Type-C® power cables may reduce power delivery.

HP 100W Wall Mount USB Type-C® GaN Halogen Free AC power adapter	Weight (DC Cable Included)	106 g ± 10 g
	Input	100 Vac ~ 240 Vac
	Input Efficiency	USB-C 90.00 % min at 115 Vac/ 230 Vac @ 20.00 V/ 5.00 A
	Input frequency range	47 Hz ~ 63 Hz
	Input AC current	Max 1.60 A at 90 Vac input
	Output	
	Output power	20.00 V / 100.00 W
	DC output	+ 20.00 V
	Hold - up time	5 ms at 115 Vac input
	Output Over Current Protection	5.40 A (max)
	AC Inlet Type	Fixed 2 Prong
	DC Cable Connector	USB Type-C
	DC Cable Material	Halogen Free
	Connector	
	Connector	Fixed 2 Prong
	Environmental Design	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non - operating(storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 m to 5000 m (0 ft to 16404.2 ft)
	Humidity	20 % to 95 %
	Storage Humidity	10 % to 95 %
	EMI and Safety Certifications	Worldwide safety standards - IEC60950-1 and IEC62368-1: 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class

		B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC
HP 100W Wall Mount USB Type-C® GaN Halogen Free AC power adapter	Weight (DC Cable Included)	250 g ± 10 g
	Input	100 Vac ~ 240 Vac
	Input Efficiency	USB-C 90.00 % min at 115 Vac/ 230 Vac @ 20.00 V/ 5.00 A
	Input frequency range	47 Hz ~ 63 Hz
	Input AC current	Max 1.60 A at 90 Vac input
	Output	
	Output power	20.00 V / 100.00 W
	DC output	+ 20.00 V
	Hold - up time	5 ms at 115 Vac input
	Output Over Current Protection	5.40 A (max)
	AC Inlet Type	Foldable for 2 prong
	DC Cable Connector	USB Type-C
	DC Cable Material	Halogen Free
	Connector	
	Connector	Foldable for 2 prong
	Environmental Design	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non - operating(storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 m to 5000 m (0 ft to 16404.2 ft)
	Humidity	20 % to 95 %
	Storage Humidity	10 % to 95 %
	EMI and Safety Certifications	Worldwide safety standards - IEC60950-1 and IEC62368-1: 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC),

		EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC
HP 65W Standard USB Type-C® GaN AC power adapter	Weight (DC Cable Included)	185 g ± 10 g
	Input	100 Vac ~ 240 Vac
	Input Efficiency	USB-C 89.00 % min at 115 Vac/ 230 Vac @ 20.00 V/ 3.25 A
	Input frequency range	47 Hz ~ 63 Hz
	Input AC current	Max 1.60 A at 90 Vac input
	Output	
	Output power	20.00 V / 65.00 W
	DC output	+ 20.00 V
	Hold - up time	5 ms at 115 Vac input
	Output Over Current Protection	5.40 A (max)
	AC Inlet Type	C6
	DC Cable Connector	USB Type-C
	DC Cable Material	Low Halogen
	Connector	
	Connector	C6
	Environmental Design	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non - operating(storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 m to 5000 m (0 ft to 16404.2 ft)
	Humidity	20 % to 95 %
	Storage Humidity	10 % to 95 %
	EMI and Safety Certifications	Worldwide safety standards - IEC60950-1 and IEC62368-1: 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE,

		NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC
HP 65W Wall Mount USB Type-C® GaN Halogen Free AC power adapter	Weight (DC Cable Included)	185 g ± 10 g
	Input	100 Vac ~ 240 Vac
	Input Efficiency	USB-C 89.00 % min at 115 Vac/ 230 Vac @ 20.00 V/ 3.25 A
	Input frequency range	47 Hz ~ 63 Hz
	Input AC current	Max 1.60 A at 90 Vac input
	Output	
	Output power	20.00 V / 65.00 W
	DC output	+ 20.00 V
	Hold - up time	5 ms at 115 Vac input
	Output Over Current Protection	5.40 A (max)
	AC Inlet Type	Foldable for 2 prong
	DC Cable Connector	USB Type-C
	DC Cable Material	Halogen Free
	Connector	
	Connector	Foldable for 2 prong
	Environmental Design	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non - operating(storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 m to 5000 m (0 ft to 16404.2 ft)
	Humidity	20 % to 95 %
	Storage Humidity	10 % to 95 %
	EMI and Safety Certifications	Worldwide safety standards - IEC60950-1 and IEC62368-1: 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE,

		NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC
HP 65W Wall Mount USB Type-C® GaN Halogen Free AC power adapter	Weight (DC Cable Included)	185 g ± 10 g
	Input	100 Vac ~ 240 Vac
	Input Efficiency	USB-C 89.00 % min at 115 Vac/ 230 Vac @ 20.00 V/ 3.25 A
	Input frequency range	47 Hz ~ 63 Hz
	Input AC current	Max 1.60 A at 90 Vac input
	Output	
	Output power	20.00 V / 65.00 W
	DC output	+ 20.00 V
	Hold - up time	5 ms at 115 Vac input
	Output Over Current Protection	5.50 A (max)
	AC Inlet Type	Fixed 2 Prong
	DC Cable Connector	USB Type-C
	DC Cable Material	Halogen Free
	Connector	
	Connector	Fixed 2 Prong
	Environmental Design	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non - operating(storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 m to 5000 m (0 ft to 16404.2 ft)
	Humidity	20 % to 95 %
	Storage Humidity	10 % to 95 %
	EMI and Safety Certifications	Worldwide safety standards - IEC60950-1 and IEC62368-1: 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE,

NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC

Battery

HP Long Life 3 cell, 68Whr Polymer	Weight	239 g ± 10 g (0.51 lb)
	Cells / Type	3 cell Lithium-Ion Polymer /
	Energy	
	Voltage	11.67 V
	Amp - hour capacity	5.830 Ah
	Watt - hour capacity	68Wh.0.00 Wh
	Temperature	
	Operating (Charging)	0°C to 45°C (32°F to 113°F)
	Operating (Discharging)	-10°C to 65°C (14°F to 149°F)
	Optional Travel Battery Available	No
HP Long Life 3 cell, 62Whr Polymer	Weight	226 g ± 10 g (0.5 lb)
	Cells / Type	3 cell Lithium-Ion Polymer / 645974
	Energy	
	Voltage	11.58 V
	Amp - hour capacity	5.355 Ah
	Watt - hour capacity	62Wh.0.00 Wh
	Temperature	
	Operating (Charging)	0°C to 45°C (32°F to 113°F)
	Operating (Discharging)	-10°C to 65°C (14°F to 149°F)
	Optional Travel Battery Available	No

AUDIO

Codec	Realtek ALC3315
Audio I/O Ports	3.5mm Headset: CTIA only; Headphone-out
Internal Speaker Amplifier	TI TAS2783A 23-V Soundwire Mono Smart Amplifier
Multi-streaming Capable	Playback multi-streaming can be enabled in the audio control panel to allow independent audio streams to be sent to/from the front jacks or integrated speaker. Following Microsoft behavior.
Sampling	DAC: Supports resolutions from 16-bit to 24-bit;48.0 kHz to 48.0 kHz ADC: Supports resolutions from 16-bit to 24-bit;44.1 kHz to 48.0 kHz
Internal Speaker	Yes

FINGERPRINT READER

Sensor vendor	SYNAPTICS
Sensor type	Capacitive
DPI resolution	363 DPI
Scan area	104 x 86 pixels
False Rejection Rate	< 3%
False Acceptance Rate	< 0.001%
Mobile Voltage Operation	2.7 V ~ 3.6 V
Operating Temperature	5°C ~ 60°C (41°F ~ 140°F)
Current Consumption Image	100 mA max
Low Latency Wait For Finger	260 uA
Capture Rate	50 frames/sec
ESD Resistance	IEC 61000-4-2 4B (+15KV)
Detection Matrix	363 dpi / 7.4 x 6.0 mm sensor area

Sensor vendor	ELAN
Sensor type	Capacitive
DPI resolution	363 DPI
Scan area	56 x 56 pixels
False Rejection Rate	< 3%
False Acceptance Rate	< 0.001%
Mobile Voltage Operation	2.8 V ~ 3.6 V
Operating Temperature	-20°C ~ 80°C (-4°F ~ 176°F)
Current Consumption Image	100 mA max
Low Latency Wait For Finger	300 uA
Capture Rate	50 frames/sec
ESD Resistance	IEC 61000-4-2 4B (+15KV)
Detection Matrix	363 dpi / 4.0 x 4.0 mm sensor area

OPTIONS

Container Name	Description	Part Number
Adapters	HP 240W Thunderbolt 4 Cable	BR1W8AA
	HP HDMI to VGA Adapter	H4F02AA
	HP USB 3.0 to Gigabit RJ45 Adapter G2	4Z7Z7AA
	HP USB-C to DisplayPort Adapter G2	8Y8Y1AA
	HP USB-C to HDMI 2.0 Adapter	1WC36AA
	HP USB-C to RJ45 Adapter G2	4Z527AA
	HP USB-C to USB 3.0 Adapter	N2Z63AA
	HP USB-C to VGA Adapter	N9K76AA
Audio - Earbuds	Poly Voyager Free 60+ Carbon Black Earbuds	7Y8G4AA
	Poly Voyager Free 60+ Carbon Black Earbuds	7Y8H0AA
Audio - Headset	HP Poly Focus 625 Fold Headset + Wireless Charge Stand	C56XZAA
	HP Poly Focus 625 Fold Stereo Bluetooth Headset	C56XSAA
	HP Poly Focus 625 Headset + Wireless Charge Stand	C56XXAA
	HP Poly Focus 625 Stereo Bluetooth Headset	C56XPAA
	HP Poly Mission 415 Monaural USB Wired Headset Classic	C01A9AA
	HP Poly Mission 425 Stereo USB Wired Headset Classic	C01B3AA
	HP Poly Mission 615 Monaural	C01F4AA
	HP Poly Mission 615 Monaural USB Wired Headset	C01C3AA
	HP Poly Mission 625 Stereo	C01F6AA
	HP Poly Mission 625 Stereo USB Wired Headset	C01C6AA
	HP Poly Mission 815 Monaural USB Wired Headset	C01F8AA
	HP Poly Mission 825 Stereo USB Wired Headset	C01FCAA
	HP USB G2 Stereo Headset	428K6AA
	Poly Blackwire 3210 Monaural USB-C Headset	8X214AA
	Poly Blackwire 3215 Monaural USB-C Headset	8X227AA
	Poly Blackwire 3220 Stereo USB-C Headset	8X228AA
	Poly Blackwire 3225 Stereo USB-C Headset	8X229AA
	Poly Blackwire 3310 Monaural USB-C Headset	8X215AA
	Poly Blackwire 3310 Monaural USB-C Headset	8X216AA
	Poly Blackwire 3315 Monaural USB-C Headset	8X217AA
	Poly Blackwire 3315 Monaural USB-C Headset	8X218AA

Poly Blackwire 3320 Stereo USB-C Headset	8X219AA
Poly Blackwire 3320 Stereo USB-C Headset	8X220AA
Poly Blackwire 3325 Stereo USB-C Headset	8X221AA
Poly Blackwire 3325 Stereo USB-C Headset	8X222AA
Poly Blackwire 5210 Monaural USB-C Headset	8X230AA
Poly Blackwire 5220 Stereo USB-C Headset	8X231AA
Poly Blackwire 8225 Stereo USB-C Headset	8X223AA
Poly Blackwire 8225 Stereo USB-C Headset	8X225AA
Poly EncorePro 320 Binaural Headset	77T26AA
Poly EncorePro 510 Monaural Headset	783Q2AA
Poly EncorePro 510 Monoaural Headset	783Q1AA
Poly EncorePro 520 Binaural Headset	783P6AA
Poly EncorePro 520 Binaural Headset	783P7AA
Poly EncorePro 530 Discreet Headset	783P2AA
Poly EncorePro 530 Headset	783P3AA
Poly EncorePro 540 Convertible Headset	783P0AA
Poly EncorePro 540 Convertible Headset	783P1AA
Poly EncorePro 720 Binaural Headset	8R707AA
Poly EncorePro HW710 Single Ear Headset	8R708AA
Poly EncorePro Monoaural 310 Headset	77T43AA
Poly EncorePro Monoaural 515 with USB-A Headset	783R0AA
Poly EncorePro Monoaural 515 with USB-A Headset	783R1AA
Poly EncorePro Stereo 525 with USB-A Headset	783R2AA
Poly EncorePro USB-A Monoaural 715 Headset	783N5AA
Poly EncorePro USB-A Stereo 525 Headset	783R3AA
Poly EncorePro USB-A Stereo 725 Headset	783M6AA
Poly EncorePro USB-C Monoaural 310 Headset	760Q8AA
Poly Savi 7310 DECT 1880-1900 MHz Single Ear Headset	8D3G3AA
Poly Savi 7310 Monaural DECT 1880-1900 MHz Headset	8L561AA
Poly Savi 7310 Monaural DECT 1880-1900 MHz Headset	8L575AA
Poly Savi 7310 Monaural DECT 1920-1930 MHz Headset	7S430AA
Poly Savi 7310 Monaural DECT 1920-1930 MHz Headset	8L570AA
Poly Savi 7310 Monaural DECT 1920-1930 MHz Headset	8L585AA

Poly Savi 7310-M DECT 1880-1900 MHz Single Ear Headset	8D3K7AA
Poly Savi 7310-M DECT 1920-1930 MHz Single Ear Headset	7S439AA
Poly Savi 7320 Stereo DECT 1880-1900 MHz Headset	8D3F7AA
Poly Savi 7320 Stereo DECT 1880-1900 MHz Headset	8L545AA
Poly Savi 7320 Stereo DECT 1880-1900 MHz Headset	8L553AA
Poly Savi 7320 Stereo DECT 1893-1906 MHz Headset	8D3F8AA
Poly Savi 7320 Stereo DECT 1893-1906 MHz Headset	8L546AA
Poly Savi 7320 Stereo DECT 1893-1906 MHz Headset	8L555AA
Poly Savi 7320 Stereo DECT 1910-1920 MHz Headset	8D3G0AA
Poly Savi 7320 Stereo DECT 1920-1930 MHz Headset	7S429AA
Poly Savi 7320 Stereo DECT 1920-1930 MHz Headset	8L549AA
Poly Savi 7320 Stereo DECT 1920-1930 MHz Headset	8L559AA
Poly Savi 7320-M Stereo DECT 1880-1900 MHz Headset	8D3J6AA
Poly Savi 7320-M Stereo DECT 1893-1906 MHz Headset	8D3K2AA
Poly Savi 7320-M Stereo DECT 1910-1920 MHz Headset	8D3K0AA
Poly Savi 7320-M Stereo DECT 1920-1930 MHz Headset	7S435AA
Poly Savi 8210 DECT 1880-1900 MHz USB-A Headset	8D3E9AA
Poly Savi 8210 DECT 1880-1900 MHz USB-A Headset	8D3F1AA
Poly Savi 8210 DECT 1920-1930 MHz USB-A Headset	77T29AA
Poly Savi 8210 DECT 1920-1930 MHz USB-A Headset	77T31AA
Poly Savi 8220 DECT 1880-1900 MHz USB-A Headset	8D3F2AA
Poly Savi 8220 DECT 1880-1900 MHz USB-A Headset	8D3F5AA
Poly Savi 8220 DECT 1920-1930 MHz USB-A Headset	77T33AA
Poly Savi 8220 DECT 1920-1930 MHz USB-A Headset	77Y82AA
Poly Savi 8220 Stereo DECT 1880-1900 MHz Top	8Y9C4AA
Poly Savi 8245 DECT 1880-1900 MHz Headset	8D3H2AA
Poly Savi 8245 DECT 1880-1900 MHz USB-A Headset	8D3F4AA
Poly Savi 8410 Monaural DECT 1880-1900 MHz Headset	8L5A7AA
Poly Savi 8410 Monaural DECT 1880-1900 MHz Headset	8L5A9AA
Poly Savi 8410 Monaural DECT 1920-1930 MHz Headset	8L7E6AA
Poly Savi 8410 Monaural DECT 1920-1930 MHz Headset	8L7E9AA
Poly Savi 8420 Stereo DECT 1880-1900 MHz Headset	8L5B2AA
Poly Savi 8420 Stereo DECT 1880-1900 MHz Headset	8L5B3AA

	Poly Savi 8420 Stereo DECT 1920-1930 MHz Headset	8L7F2AA
	Poly Savi 8420 Stereo DECT 1920-1930 MHz Headset	8L7F5AA
	Poly Savi 8445 DECT 1880-1900 MHz Convertible Headset	8L5B4AA
	Poly Savi 8445 DECT 1880-1900 MHz Convertible Headset	8L5B6AA
	Poly Savi 8445 DECT 1920-1930 MHz Convertible Headset	8L7F1AA
	Poly Savi 8445 DECT 1920-1930 MHz Convertible Headset	8L7F8AA
	Poly Voyager 4310 Headset	77Y93AA
	Poly Voyager 4310 Monaural Headset	77Y92AA
	Poly Voyager 4310 USB-A Headset	76U48AA
	Poly Voyager 4310 USB-A Headset	77Y91AA
	Poly Voyager 4310 USB-C Headset	77Y94AA
	Poly Voyager 4310 USB-C Headset	77Y95AA
	Poly Voyager 4310 USB-C Headset	77Y96AA
	Poly Voyager 4310-M USB-C Headset	77Y97AA
	Poly Voyager 4320 Headset	77Z00AA
	Poly Voyager 4320 Stereo USB-A Headset	77Y99AA
	Poly Voyager 4320 USB-A Headset	76U49AA
	Poly Voyager 4320 USB-A Headset	77Y98AA
	Poly Voyager 4320 USB-C Headset	76U50AA
	Poly Voyager 4320 USB-C Headset	77Z30AA
	Poly Voyager 4320 USB-C Headset	77Z31AA
	Poly Voyager 4320-M Headset	77Z32AA
	Poly Voyager Focus 2 USB-C-C Headset	9T9J3AA
	Poly Voyager Focus 2 USB-C-C Headset	9T9J5AA
	Poly Voyager Focus 2 USB-C-C Headset	9T9J6AA
	Poly Voyager Legend 50 Headset UC	AT9M9AA,AT9M9UT
	Poly Voyager Legend 50-M Headset UC	AJ8V4AA,AJ8V4UT
	Poly Voyager Surround 80 USB-C Headset	8G7T9AA
	Poly Voyager Surround 80 USB-C Headset	8G7U0AA
	Poly Voyager Surround 85 USB-C Headset	8G7T7AA
	Poly Voyager Surround 85 USB-C Headset	8G7T8AA
Audio - Speaker phone	Poly Sync 10 Speakerphone	77P34AA
	Poly Sync 20 Speakerphone USB-C/A Adapter	B95VJUT

	Poly Sync 20+ Speakerphone	B95VKAA
	Poly Sync 20+M Speakerphone USB-C/A Adapter	B95VLAA
	Poly Sync 20-M Speakerphone USB-C/A Adapter	B95VMUT
	Poly Sync 40 Speakerphone	77P35AA
	Poly Sync 40+ USB-A USB-C Speakerphone	77P36AA
	Poly Sync 40+ USB-A USB-C Speakerphone	772C5AA
	Poly Sync 60 Speakerphone	772C2AA
	Poly Sync 60 Speakerphone	77P41AA
	Poly Sync USB-A USB-C 10 Speakerphone	772C3AA
	Poly Sync USB-A USB-C 40 Speakerphone	772C4AA
Camera	HP 625 Webcam	6Y7L1AA
	HP USB-A 325 Webcam	53X27AA
Cases	HP 14 Convertible Laptop Backpack Tote	9C2H1AA
	HP 14 Modular Laptop Sleeve	9J499AA
	HP 15.6 Modular Laptop Backpack	9J496AA
	HP 15.6 Modular Laptop Bag	9J497AA
	HP 15.6 Modular Laptop Sleeve	9J498AA
	HP Campus blue Backpack	7K0E5AA
	HP Campus Core 16 blue Laptop Backpack	B9RB4AA
	HP Campus Core 16 green Laptop Backpack	B9RB5AA
	HP Campus green Backpack	7K0E4AA
	HP Campus XL Marble Stone Backpack	7K0E2AA
	HP Campus XL Tie Dye Backpack	7K0E3AA
	HP Convertible Laptop Stand	9C2H2AA
	HP Everyday 14 odyssey gray Laptop Bag	A08KJAA
	HP Everyday 14 odyssey gray Laptop Briefcase	A08KGAA
	HP Modern 14-inch moonless Night Laptop Briefcase	CJ8D0AA
	HP Modern 14-inch navy blazer Laptop Briefcase	CJ8F8AA
	HP Prelude 15.6 Backpack	1E7D6AA,1E7D6UT,50P32AA
	HP Prelude 15.6 Top Load	1E7D7AA,50P31AA
	HP Prelude Pro Recycled 15.6 Backpack	1X644AA
	HP Prelude Pro Recycled 15.6 Top Load	1X645AA
	HP Protective 13-14 atmospheric blue Laptop Sleeve	C3TR3UT

	HP Protective 13-14 meteor silver Laptop Sleeve	C3TR2UT
	HP Renew Business 14.1 Laptop Bag	3E5F9AA
	HP Renew Business 14.1 Laptop Sleeve	3E2U7AA
	HP Renew Business 15.6 Laptop Bag	3E5F8AA
	HP Renew Business 17.3 Laptop Backpack	3E2U5UT
	HP Renew Business 17.3 Laptop Bag	3E2U6AA
	HP Renew Executive 14.1 Laptop Sleeve	6B8Y3AA
	HP Renew Executive 16 Laptop Backpack	6B8Y1UT
	HP Renew Executive 16 Laptop Bag	6B8Y2AA
	HP Travel 18 Liter 15.6 iron gray Laptop Backpack	6H2D9AA
	HP Travel 25 Liter 15.6 iron gray Laptop Backpack	6H2D8AA
	HP Travel Plus 15 Liter 14 Laptop Bag	A2CE2AA
Commodity	HP USB DVD-Writer External ODD	F2B56AA
	HP 14-inch Widescreen Laptop Privacy Filter	BH0M6AA
	HP Combination Nano Cable Lock	63B28AA
	HP Essential Combination Nano Cable Lock	63B31AA
	HP Nano Keyed Cable Lock	1AJ39AA
	HP Nano Master Keyed Cable Lock	1AJ40AA
	HP SureKey Standard/Nano/Wedge Cable Lock	6UW42AA
Docking	HP Thunderbolt™ 100W G6 Dock	9X472AA,9X472UT
	HP Thunderbolt™ 180W G6 Dock	9X481AA,9X481UT
	HP Thunderbolt™ 280W G6 Dock	AW5L5AA,AW5M5UT
	HP USB-C™ 100W G6 Dock	9X3V1AA,9X3V1UT
Hub	HP 4K USB-C Multiport Hub	6G843AA
	HP Portable USB-C 4K HDMI Hub	BR1U0UT
	HP Portable USB-C Hub	B8SU8UT
	HP Universal USB-C Hub and Laptop Charger Combo	9H0H9AA
	HP Universal USB-C Multiport Hub	50H55UT
	HP USB-C to USB-A Hub	Z6A00AA
	HP USB-C Travel Hub G3	86S97UT
Keyboard	HP 125 G2 Wired Keyboard	AY2Y7AA
	HP 125 Wired Keyboard	266C9AA
	HP 225 Wireless Keyboard	805T1AA

	HP 320K G2 Wired Keyboard	9SR37UT
	HP 355 Compact Multi-Device Keyboard	692S9AA
	HP 405 Backlit Wired Keyboard	7N7C1AA,7N7C1UT
	HP 435 Programmable Wireless Keypad	7N7C3AA
	HP 475 Dual-Mode Wireless Keyboard	7N7B9AA,7N7B9UT
	HP 485 Comfort Wired Keyboard	8T6M2AA
	HP 495K Multi-Device Keyboard	BD5F5UT
	HP 585K Multi-Device Keyboard with Palm Rest	BD5F7AA
	HP 685 Comfort Dual-Mode Keyboard	8T6L9UT
	HP 725 Multi-Device Rechargeable Wireless Keyboard	9T5B2AA
	HP 965 black Ergonomic Wireless Keyboard	7E756AA
	HP 975 Dual-Mode USB+Bluetooth Wireless Keyboard	3Z726AA
Keyboard & Mouse Combo	HP 225 Wired Mouse and Keyboard Combo G2	AX2Y7AA
	HP 225 Wired Mouse and Keyboard Combo Cashmere White G2	AW5S6AA
	HP 235 Wireless Mouse and Keyboard Combo	1Y4D0UT
	HP 685 Comfort Dual-Mode Keyboard and Mouse Combo	8T6L7UT
	HP 725 Multi-Device Rechargeable Wireless Keyboard and Mouse Combo	9T5B0UT
	HP Multi-Device Dual-Mode Mouse and Keyboard Combo 495C	BE1Q0UT
	HP Multi-Device Dual-Mode Mouse and Keyboard Combo 495C White	BE1M6AA
	HP Multi-Device Dual-Mode Mouse and Keyboard Combo with Palm Rest 585C	BD5F3AA
	HP Wired Desktop 320MK Mouse and Keyboard	9SR36UT
Mouse	HP 105 Black Wired Mouse	822M9UT
	HP 105 Mouse Pad	8X595AA
	HP 125 Wired Mouse	265A9UT
	HP 128 Laser Wired Mouse	265D9AA
	HP 205 Desk Mat	8X597AA
	HP 235 Slim Wireless Mouse	4E407UT
	HP 245 Black Bluetooth Mouse	81S67AA,81S67UT
	HP 255 Dual Wireless Mouse	8R3U1AA,8R3U1UT
	HP 285 Silent Wireless Mouse	6G4E6AA

	HP 320M Wired Mouse	9VA80AA
	HP 405 Quiet Black Wireless Mouse	AZ7B3AA
	HP 425 Programmable Wireless Mouse	7M1D5AA
	HP 435 Multi-Device Wireless Mouse	3B4Q5UT
	HP 515 Ultra-Fast Rechargeable Wireless Mouse	9C2F7AA
	HP 685 Comfort Dual-Mode Mouse	8T6M0UT
	HP 695 Qi-Charging Wireless Mouse	8F1Y4AA
	HP 705 Rechargeable Wireless Mouse	AZ7B1AA
	HP 715 Rechargeable Multi-Device Bluetooth Mouse	6E6F0AA
	HP 925 Ergonomic Vertical Wireless Mouse	6H1A5AA
	HP Tilt Ergonomic Mouse 725M	BH0Z5AA
	HP Travel USB Mouse	G1K28AA
	HP Ultra-Fast Scroll Wireless Mouse 785M	B8YX4AA
Power	HP 110W USB-C Laptop Charger	8B3Y2UT
	HP 140W USB-C Laptop Charger	B7NK0AA
	HP 65W Gallium Nitride USB-C LC Laptop Charger	9Y3X5UT
	HP 65W LC USB-C AC power adapter	1P3K6AA
	HP 65W LC USB-C AC power adapter	AJ7X5AA
	HP 65W Gallium Nitride USB-C Laptop Charger	600Q8UT
	HP 65W USB-C Laptop Charger	671R3UT
	HP 62Wh Replaceable Laptop Battery	BW7P2AA
Networking /Communications	HP 5G WWAN	D91ZTAA

CHANGELOG

Date of change	Version History		Description of change
April 8, 2026	V1 to V2	Updated	Power Section
April 17, 2026	V2 to V3	Updated	Memory section
April 20, 2026	V3 to v4	Updated	Networking section
April 24, 2026	V4 to V5	Updated	Memory Section
April 29, 2026	V5 to V6	Updated	Display Section
May 7, 2026	V6 to V7	Updated	Processor Section
June 4, 2026	V7 to V8	Updated	Memory Section
June 9, 2026	V8 to V9	Updated	Power Section
June 10, 2026	V9 to V10	Updated	Power Section
June 12, 2026	V10 to V11	Updated	Storage and Drives Section
June 18, 2026	V11 to V12	Updated	Power Section
July 13, 2026	V12 to V13	Updated	Networking /Communications
July 29, 2026	V13 to V14	Removed	Battery Section
August 3, 2026	V14 to V15	Updated	Display Section
August 4, 2026	V15 to V16	Updated	Power Section
August 6, 2026	V16 to V17	Updated	Networking /Communications
August 25, 2026	V17 to V18	Updated	Options
September 8, 2026	V18 to V19	Updated	Storage Section
October 28, 2026	V19 to V20	Updated	Operating System Section

© Copyright 2026 HP Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Intel, Core, Thunderbolt and Intel vPro are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. DisplayPort™ and the DisplayPort™ logo are trademarks owned by the Video Electronics Standards Association (VESA®) in the United States and other countries. USB Type-C® and USB-C® are trademarks of USB Implementers Forum. ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency. Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.